

Thomas A. Edison Papers

A SELECTIVE MICROFILM EDITION *PART V* *(1911-1919)*

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A Note on the Sources

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**NOTEBOOK SERIES
NOTEBOOKS BY EDISON
AND OTHER EXPERIMENTERS**

Notebook Series -- Notebooks by Edison and Other Experimenters
Disc Record Book No. 24
Notebook, N-17-07-31

This notebook was used by Edison, Archie D. Hoffman, and possibly other experimenters during July-August 1917 for notes on efforts to improve the surface quality of Edison disc records. The entries pertain primarily to a sequence of experiments numbered from 1750E through 1781E. Most involve experimental lots of record blanks constructed by different methods or prepared with different ingredients. The notes often take the form of instructions to Hoffman, Charles Dally, Frederick P. Ott, or other unspecified employees and include evaluations of the records produced. The entries toward the end of the book summarize the results obtained by varying the amounts of pressure, indicating an increase in durability in the records produced at the end of July. Inserted into the book are several loose notes, including some by Edison. The front cover is labeled "24." The pages are unnumbered. Approximately 50 pages have been used.

Alcohol 52 $\frac{1}{2}$ C
1917 -

Summerville's shoulder drying
in Vac chamber show
Dups 11 in number over 2
months period 87% OK
he will change to 2 hours
drying July 30th/19

1750 E

Summerville's exports lately all
break on drop test 20 -

This is 6 Records from
Reg Run of factory
Drop test -

1	—	20
2	—	20
3	—	3
4	—	20
5	—	20
6	—	20 -

1751-E

7/31/17



1st Dab

1st Dab

1st Dab

O-

1751.

12 blanks req powder notes only
30% sk prints -

X. 

~~1st Dab~~
1st 1/2" dia -
1st 1/2" dia -

thickness as the thin rubber X.

to make blanks lower in center

Made

ordered

1752

Reg wood pulp ground +
screen to same size as we
now grind regular Mix -

Capacity of Mill + screens to be
ascertained + quality of
fibre investigated microscope

Not practical - only get 224 lbs
hour, had stop clean mill screen

63% count thru	180	Reg 90%
46%	" 750	63

Whereas reg gives far higher
abandoned 404 1757 E

7/31/17

1753-E



16%

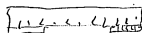
only printed
9 hands.

2 Blos Niss before printing
discovery, only 2 Blos.



1753-E

Load 12 blanks high in center



Reg pad with
Holes
7.0 spine

Make - brand

1754E

Daily to dislodge Rasm in
warm

Petroleum Benzine

" Naphla

Solvent Naphla

Kerosene -

& Report -

1755 E

Daily to see if Solvent
Naphtha will dissolve hard
Coal Tar pitch, Asphalt
Gilsonite, ~~etc.~~ etc. if so
to mix Woodruff Chalk etc.
Reg proportions will 15%
of pitch, using minimum
Solvent Naphtha -

8/6/17

1756-E

	X	X	Drops test	Calculus Points.
(2A)	X	(2A)	1 — 1	235.1
(2B)	X	(2B)	2 — 1	.231.1
(2C)	X	(2C)	3 — 1	.225.1
(2D)	X	(2D)	4 — 3	.228.1
(2E)	X	(2E)	5 — 2	.233.
(2F)	X	(2F)	6 — 7 times	.230.1

9 wins

These appear to have a
better answer than Ray
will try on Michael Wouders
Powder dried slow, very
damp, given takes out of
drip. Powder dried and
of quindias had to stop
every 30 + 15 minutes to
absorb tears.
Screens on Norway
apart, drying, very bad,
would have 1/2 about them
quite after. Small holes
all this powder after it is
packed.

I am told there
powder ground &
blasted very bad
find out from Haffnesh
all about it.

1756- NG
Cuts edge of Tool all to
Edge pieces - Hand blank
ships

Hoffman Make one dryer
batch of regular using
China Clay instead of
Chalk - Run the whole
off them. But keep
account of 96. up
stairs what percent
was OK - also per
cent good blanks

1757

Hoffman

Make dryer full of mix with
only $\frac{1}{2}$ the amount of varnish
usually used

Dry & grind, + screen —

Then take this powder put in
mixer & add the other $\frac{1}{2}$
of the Varnish mix well &
~~mix~~ dry again —

Use this powder ~~of~~
with rescreening —

Let whole batch go thru factory
but give 96 of the blanks the humidity
print & keep track of OK blinks & prints
D13

1758

Grind Rosin & Reg wood + chalk
in Chilian Mill - also Motion
see how it processes in 2" die
with Reg pressure.

Fred Ott -

Went a pressure of 2400
lbs on the 2" die -

1759 E

Fredell, & Dalling

Mix. 6 oz wood fibers
4 oz chalk

with a varnish made of
1 1/2 oz Rosin - in 60 cc
of solvent Naphtha, -

Do it in Chellian kiln
Then dry at 212 in
Vacuum Press

Let me see powder ~~before~~
after mixing & after drying
DVE

add bunch of $\frac{1}{2}$ the powder
(flow) mix than put in all
 $\frac{1}{2}$ of wood than mix
then slowly add
back till all uniform

Antine Violet Colors
Vermish -

[illegible]









































































1760 E

Print 24 Reg records
but instead of 850 presses

but instead of 850 pressure

Use only 800.

Print & send to Edna

Day Work 7/30/12	Night Work 7/31/12	Day Work 7/31/12	Day Work 7/31/12
1762-E			
Feed 1 			
			
			
			
			
			
			
			
			
			
			
			
			
			
			
			
			
			
47 $\frac{50}{100}$	100%	41%	75%

1762-E

Print 24 regular
records but instead
of using 850 lbs use
only 700 lbs.
Send to Edna

See next Page.

Hwy 4 1000 ft 1000 ft 7/31	10 Day Work 8/1/17	
(OK)	x (OK)	x
(OK)	x (OK)	x
(OK)	x (OK)	x
(OK)	x (OK)	x
(OK)	x (OK)	x
(OK)	x (OK)	x
(OK)	x (OK)	x
(OK)	x (OK)	x
(OK)	x (OK)	x
(OK)	x (OK)	x
(OK)	x (OK)	x
(OK)	x (OK)	x
(OK)	x (OK)	x
(OK)	x (OK)	x
(OK)	x (OK)	x
(OK)	x (OK)	x
(OK)	x (OK)	x
(OK)	x (OK)	x
(OK)	x (OK)	x
(OK)	x (OK)	x
(OK)	x (OK)	x
(OK)	x (OK)	x
(OK)	x (OK)	x
(OK)	x (OK)	x
(OK)	x (OK)	x
(OK)	x (OK)	x
(OK)	x (OK)	x

83% 91%

[illegible]

1764 E

only use 650 pounds

Pressure

Send to Edwin

Day	Work	5/15
OK	OK	x
OK	OK	x
OK	OK	x
OK	OK	x
OK	OK	x
OK	OK	x
OK	OK	y
OK	OK	x
OK	OK	x

75%

[illegible]

1777-E

7/31/17

Drop test

OK	x	1	20
OK	x	2	20
OK	x	3	20
OK	x	4	20
OK	x	5	20
OK	x	6	20
			<hr/>
			120 times

1/4" mesh screen on shaking machine.
Powder piles up in center, had to disperse
brush it around edges.

tested 3 records

1 very accurately

2 " "

3 " " " " " "

4 " " " " " "

5 " " " " " "

6 " " " " " "

7 " " " " " "

8 " " " " " "

9 " " " " " "

10 " " " " " "

11 " " " " " "

12 " " " " " "

9/1/17

Can't see injuris to small.
Big powder must have
segregated - coarse on flanks
fines.

1777 E

Hoffman -

Use the shaking screen
rig it up and load 12 moulds
by putting in weighed
amount of powder from
a scoop all at once
while screen is shaking
till all through, press
with Ruster irregular
note time it takes to
load

1777

1	x	(24)
2	x	(24)
3	x	(24)
4	x	(24)
5	x	(24)
6	x	(24)
7	x	(24)
8	x	(24)
9	x	(24)
10	x	(24)
11	x	(24)
12	x	(24)
13	x	(24)
14	x	(24)
15	x	(24)
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83	x	(24)
84	x	(24)
85	x	(24)
86	x	(24)
87	x	(24)
88	x	(24)
89	x	(24)
90	x	(24)
91	x	(24)
92	x	(24)
93	x	(24)
94	x	(24)
95	x	(24)
96	x	(24)
97	x	(24)
98	x	(24)
99	x	(24)
100	x	(24)

Drop test
1- 20 226.1
2- 20 220
3- 20 227.1
4- 20 220.1
5- 20 215.1
6- 20 224.1
100 Total

75% Cont.
62.5 Percent.

1778E

Print 24 with square edge
blanks at 650 pounds
pressure,

Send to Edison 8/2/17

1778E Print 24 at 600 lbs. making 650

1	x	(24)
2	x	(24)
3	x	(24)
4	x	(24)
5	x	(24)
6	x	(24)
7	x	(24)
8	x	(24)
9	x	(24)
10	x	(24)
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91	x	(24)
92	x	(24)
93	x	(24)
94	x	(24)
95	x	(24)
96	x	(24)
97	x	(24)
98	x	(24)
99	x	(24)
100	x	(24)

91.6%

Averages	
850	41-45
800	60-42
750	63-64
700	59-67
650	74-78
600	85-92

Tested Violin Michel records 850-600
550 500

850 is the best. 500 is next best 600 next
+ 550 worst. There is only a small
difference between all except 550
which is noticeably lower but all are
good - Evidently Varenhulung
Techniques Can be greatly
improved -

If we have to go to 500 it
is OK & only slightly well for
a small % of low spots

Hence on fine periods blank
of July 30th 1917 we have
a change as far as surface is
concerned from 850 to 500 lbs pressure

Pressure Tests

850 800 750 700 650 600

25	33	47	44	58	58
58	91	83	47	83	100
41	58	75	100	83	100
50	58	47	41	83	83
	25	66	75	66	100
accumulated set 700			83	66	100
700	650	600	550	500	
			95.5	95.8	

Edging

100%	90.9	—	92.2	100	100
100	100	100	83.3	91.6	100
82	91	82	82	82	91

Req & special Anchois
Edging on yps ~~to~~ 650-600
550 + 500 lbs pressure
all 100% -
No Re Edging

Aug 1st 1917
Put Accumulation pressure at 600
lbs - at 10 45 am —

[illegible]

1779 E

Print reg 24 Reg blanks but
use only 550 lbs press on 2
send to Edison

	Day Work.	Day Work.	Day Work.
	8/1/17	8/2/17	8/3/17
1	OK	OK	OK
2	OK	OK	OK
3	OK	OK	OK
4	OK	OK	OK
5	OK	OK	OK
6	OK	OK	OK
7	OK	OK	OK
8	OK	OK	OK
9	OK	OK	OK
10	OK	OK	OK
11	OK	OK	OK
12	OK	OK	OK
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93	OK	OK	OK
94	OK	OK	OK
95	OK	OK	OK
96	OK	OK	OK
97	OK	OK	OK
98	OK	OK	OK
99	OK	OK	OK
100	OK	OK	OK

1780 E

Print 24 seconds regular
blanks but with only
500 lbs pressure.

Prime Cuban

Soft Mexican

Gas house Tar,

Gilsonite

with Solvent Nap. in place of
alcohol - not as strong as

Resin -

Wood Tar pitch is also
strong as Resin -

Up to 26th of July records
had poor dress test 50 to 60
lbs, on 26th (they run up to
500, 100 at 27th then went
to 100% (10) 120 + continued
120 up to date Aug 2nd

Hoffman says 3 things
took place at 26th & 27th
or close thereto -

$\frac{1}{2}$ Norway & $\frac{1}{2}$ Carrago powder
stalled & has continued to
date -

Previously from 14th $\frac{1}{2}$ Dupont
& $\frac{1}{2}$ Norway used -
2nd Change Changed over from
Grand Naval Stores to Columbia
Stores -

2nd Change powder kept much
longer before use up to 31st July

[ITEM(S) FOUND IN BOOK]

Dunwoddie -

All these are good
records nothing
that needs repair
& no cost

Total 7 - 100%

Looks good

8

[ITEM(S) FOUND IN BOOK]

1781 blank schedule 11 Runs 131 Prints

89%

Req 600 of schedule 10 Runs 120 Prints

59%

Req 600 Lbs. 1781 48 prints

70.5

Sharp Edges 600 of sch

76.5

Sharp Edges - 96 prints

92.5

Sharp Edges 1781 - 48 prints

97.5

less sharp 1781 24 prints

84%

[ITEM(S) FOUND IN BOOK]

Hawaiian 519
No signs wear &
OK ~~no~~ wear *

187 point
Mediation OK no wear
OK for surface cracks

225 ~~444~~
America Her's my boy
No cracks no wear
OK

220
Everybody loves A (as in me)
3 cracks near (front)
may be blank — OK no wear

[ITEM(S) FOUND IN BOOK]

Cavalera - 100-
No leg cracks OK
No wear -

160
Avallonia -
no large cracks OK
no wear -

American aers
H45 OK

[ITEM(S) FOUND IN BOOK]

1	Orange clay	Shelton Kellian
2	" "	" "
1	Terrible Crockers	Run Clay
2	" "	" "
1	Very bad band	Run for rocks
2	" "	" " Skin

Can't see anywhere to
 move, the papers
 must have aggregated -
 & coarse on blank
 faces -

[ITEM(S) FOUND IN BOOK]

103	113	120
80	102	120
57	100	120
70	94	120
53	68	120
55	64	120
60	22	120
56	70	120
48	76	120
56	120	120
97	51	120
23	92	120
65	45	99
56	81	87
54	110	120
39	114	112
74	104	116
116	79	
85	120	27 th
68	120	

26th to 30th Aug
 Remains from
 11 to 14th Aug 1944
 previous numbers

24th 1/2 morning
 1/2 afternoon
 + Ever since

25th Chgo Robin
 from Glen Head
 down to Calverton

600 B. Persim.

[illegible]

[ITEM(S) FOUND IN BOOK]

850 lbs pressure 120 lbs 5.8% OK
 800 " " " " 91% OK
 750 " " " " 83% OK
 700 " " " " 100% OK
 650 " " " " 83% OK
 600 " " " " 100% OK

850	25	58
800	33	91
750	47	83
700	47	100
650	58	83
600	58	100
600	100	

watched

[ITEM(S) FOUND IN BOOK]

7/15/17	--	--	12 hour
" 11 "	--	--	40 "
" 12 "	--	--	20 hour
" 13 "	--	--	1 hour
" 16 "	--	--	24 "
" 17 "	--	--	12 "
" 18 "	--	--	12 "
" 19 "	--	--	1 "
" 20 "	--	--	1 "
" 21 "	--	--	1 "
" 23 "	--	--	24 "
" 24 "	--	--	16 "
" 25 "	--	--	6 "
" 26 "	--	--	11 "
" 27 "	--	--	14 "
" 28 "	--	--	16 "
" 29 "	--	--	40 "
" 30 "	--	--	40 "
" 31 "	--	--	20 "

Notebook Series -- Notebooks by Edison and Other Experimenters
Disc Record Book No. 25
Notebook, N-17-08-06.2

This notebook was used by William W. Dinwiddie, Archie D. Hoffman, and possibly other experimenters during August 1917-March 1918 for notes on efforts to improve the surface quality of Edison disc records. There are occasional comments by Edison on the work performed. The entries pertain primarily to a sequence of experiments numbered from 1801E to 1896E. Most involve experimental lots of record blanks constructed by different methods or prepared with different ingredients, including wood flour purchased from various suppliers. Some of the experiments involve different varnish compounds and variations in the methods of applying it. One note details the "actual process of making varnish." A few entries refer to "Inspection" books A and B (N-17-08-13 and N-17-08-31 [not selected] in Notebooks by Other Experimenters—Phonograph Record Experiments—Record Inspection Books). There are also references to "Rice's book" (G. B. Rice Non-experimental Notebook, N-17-09-25 [not selected]) and to suggestions by Charles G. Kircher and an experimenter named Gray. The notes often take the form of instructions describing the experimental records wanted, accompanied by evaluations of the test records produced. The front and back covers are labeled "25." The pages are unnumbered. Approximately 160 pages have been used.

1801-E

[illegible]

100%

75. 7/8

1801-E Make one drier full regular
1738-E except use all
Dupont wood flour—
Keep 5-lb sample of wood
flour for tests later,

Ricorda

407

dis'cards

Bye

machine
~~and~~
final

- 2 pull out
- 1 curved edge
- 4 parallel dr -
- 2 wood in blank
- 5 metal " "
- 1 stain
- 13 low spots
- 2 rough spots

{ 13 rough spots
 5 anaps
 16 claims
 66 total discards

407) $\overset{012}{\overline{341}} \overline{3256} \left(83.7\% \text{ OK} \right.$
 $\underline{1540}$
 $\underline{1421}$
 3190

1806-E

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

Drop Test Qualifier Results

1. — 18	.227
2. — 20	.225
3. — 20	.219
4. — 16	.226
5. — 20	.222
6. — 20	.227.5

114 Tests

100%

100%

1806-E Make two rounds regular
1738-1781 Blanks except in
large press use only 400 lbs pressure.
Varnish and print regular
send to Miller -

1807-E

OH
OH

X

OH
OH

X

OH
OH

X

OH
OH

X

OH
OH

X

OH
OH

X

OH
OH

X

OH
OH

X

Distances

OH
OH

X

OH
OH

X

OH
OH

X

OH
OH

X

OH
OH

X

OH
OH

X

OH
OH

X

OH
OH

X

OH
OH

X

OH
OH

X

OH
OH

X

OH
OH

X

Drop Test Caliper Points

1. --- 6

.231.5"

2. --- 19

.208.5"

3. --- 20

.218.5"

4. --- 16

.226.5"

5. --- 20

.220"

6. --- 20

.238.5"

1807-E Make two rounds regular
Blanks 1788-1781 - to check
1806 and 1808 -Vannish and print regular -
Send to Miller -

83 1/2 %

90. %

CIS

1808-E

[illegible]

100. %

 $91\frac{2}{3}\%$

1808-E

Make two rounds reg blanks
1738-1781 except 5-000s pressure
on large press
varnish and print regular
send to Miller.

Aug 10/17

1809-E

Loss 4.6%

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

91 2/3 %

91 2/3 %

Drop test Caliper Points

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

OK
OK

X

1. 8 .209

2. 20 .224.5

3. 5 .217.5

4. 15 .206

5. 13 .205.5

6. 20 .217.5

81 times

1809-E Make one drive full regular
1738-E powder except use
all Union wood flour -
Keep 5 lb sample of wood -
Send 24 to Miller.

8/10/17

1510-15

Time	Notes
0.4	✓ Arry. trail
0.4	✓ 1-20
0.4	✓ 2-20
0.4	✓ 3-3
0.4	✓ 4-1.7
0.4	✓ 5-2.0
0.4	✓ 6-2.2
0.4	✓ 1) 8 times
0.4	✓ 1710-1714 Longport, P.M.
0.4	✓ 403 Records. suspended
0.4	✓ 315 Records OK final
0.4	✓ 7 P.M. B.
0.4	2 Arry. obs.

91%

9:10

2. *Phlox subulata*
 3. *Phlox subulata*

1810-E make regular powder
1738-E from $\frac{1}{2}$ Dupont and
 $\frac{1}{2}$ Garnier wood flour -
Start. P.M. Aug 8-

long broad blank not sharp -
600 lbs on blank piece
600 on print -

Suspect in Report on 1510 E. 1st June 6
 200 lbs. 100 lbs. 60 lbs. 40 lbs. 20 lbs. 10 lbs.
 1009 Records inpatient
 1955-1956 7 Years Post-Op
 H.H. 1957, 1958 4 Years Post-Op

7 Vireos Pile Blue
 4 Crows
 6 Parula's
 1 Screech Owl
 8 Starlings
 2 Cowbirds
 2

Long 2.0000

5.87%

1812-E

OK

X

OK

OK

X

OK

OK

X

OK

OK

X

OK

OK

X

OK

OK

X

OK

OK

X

OK

OK

X

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X

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OK

X

OK

OK

X

OK

1. test	Caliper Point
1. — 3	.237.1
2. — 4	.232
3. — 5	.224.1
4. — 5	.234
5. — 7	.230
6. — 3	.237
26 times	

1812-E Make 500 blanks with cardboard under center of rubber pad to make it press powder down firmer in packing press like the old solid pad -



make regular 1738 all three send 24 to miller -

478 Records inspected

478 Records inspected

385 OK

total % 51.53 OK

7 Boxes Pull Out?

1 Pull Out on Label

8 Parallel Edges

2 corners

2 narrow margins

3 low spot

3 rough

4 6 rough spots

1 rough edge

75 total defects

12 rough spot

7 rough

1 corner

93 total defects

100% OK printing

2 also ok after running 1000

001

5/5/7

[illegible]

1814-E

8-8-17 - P.R. Gray -

1814-E 8-8-17 - 12 Fr. Gray -
Blanks edged to (1st cut size)
before printing - after printing only
published off with waxy cloth -

Long Beach

8/12/72

1816-1817

[illegible]

1816-E

1816-E
Make 4 rounds regular blanks
except hold steam pressure on large
puck down to 50 pounds, otherwise
regular schedule
vanish and print regular
send all to Mills.

8/9/17

151.

[illegible]

-1818-E

- also Euc 137.1 -

Make 4 rounds regular
blanks except deep pressure on
large press down to 400 pounds.
same as 1806-E-

Spanish and print regular
Send all to Milton —

1818-E. *Quercus*

8.13

[illegible]

1819-E

1819-E Change pressure on large
blow pressure from 600 lbs to
500 pounds all regular
work - 11-Au August 10-1917

Unit # 6 1334 P. 100
470 Rev. : 10/10/77
390 On 10/10/77
82.95.

5000
 4000
 3000
 2000
 1000
 0

See Inspection Book A
Page

	Page	Page
907 Records	73.4 % 25.	528 Records 65.3 % 50.
2261 "	59.2 " 30.	1409 " 77.4 " 51.
1141 "	54.9 " 31.	2378 " 71. " 52.
2851 "	48.2 " 34.	2488 " 70. " 53.
850 "	56. " 35.	8130 " 76.3 " 54.
1582 "	54.4 " 36.	783 " 63.2 " 55.
2848 "	74.5 " 37.	3387 " 77. " 56.
3209 "	67.6 " 38.	1067 " 71.5 " 57.
45 "	62.2 " 39.	1619 " 50.9 " 60.
3437 "	57.2 " 43.	591 " 78.3 " 69.
1137 "	64.2 " 46.	596 " 71.6 " 71.
2540 "	52. " 47.	1804 " 71.4 " 72.
4735 "	51.4 " 49.	

810

8/15/17

529.5

1520 Public

1820-E ... (over) ...

Thinning of granular cells with
2 coats of thinning 15 minutes
between each coat

James G. Thompson & Son
717 N. 1st St.

91%

91%

I thank you
affly Darling
Love &c

91.0%

5413

8/13/17

1821-18

[illegible]

8.30

91%

6670

66%

1821-E Repeat 1818-E

1821- E Republica

8/14/13

Handwritten notes on lined paper, organized into columns and rows. The circles contain numbers and letters, likely representing data points or coordinates. A small diagram of a rectangular structure is drawn in the center.

Row	Column 1	Column 2	Column 3	Column 4	Column 5
1	2A	2A	2A	2A	2A
2	2A	2A	2A	2A	2A
3	2A	2A	2A	2A	2A
4	2A	2A	2A	2A	2A
5	2A	2A	2A	2A	2A
6	2A	2A	2A	2A	2A
7	2A	2A	2A	2A	2A
8	2A	2A	2A	2A	2A
9	2A	2A	2A	2A	2A
10	2A	2A	2A	2A	2A
11	2A	2A	2A	2A	2A
12	2A	2A	2A	2A	2A
13	2A	2A	2A	2A	2A
14	2A	2A	2A	2A	2A
15	2A	2A	2A	2A	2A
16	2A	2A	2A	2A	2A
17	2A	2A	2A	2A	2A
18	2A	2A	2A	2A	2A
19	2A	2A	2A	2A	2A
20	2A	2A	2A	2A	2A
21	2A	2A	2A	2A	2A
22	2A	2A	2A	2A	2A
23	2A	2A	2A	2A	2A
24	2A	2A	2A	2A	2A
25	2A	2A	2A	2A	2A
26	2A	2A	2A	2A	2A
27	2A	2A	2A	2A	2A
28	2A	2A	2A	2A	2A
29	2A	2A	2A	2A	2A
30	2A	2A	2A	2A	2A
31	2A	2A	2A	2A	2A
32	2A	2A	2A	2A	2A
33	2A	2A	2A	2A	2A
34	2A	2A	2A	2A	2A
35	2A	2A	2A	2A	2A
36	2A	2A	2A	2A	2A
37	2A	2A	2A	2A	2A
38	2A	2A	2A	2A	2A
39	2A	2A	2A	2A	2A
40	2A	2A	2A	2A	2A
41	2A	2A	2A	2A	2A
42	2A	2A	2A	2A	2A
43	2A	2A	2A	2A	2A
44	2A	2A	2A	2A	2A
45	2A	2A	2A	2A	2A
46	2A	2A	2A	2A	2A
47	2A	2A	2A	2A	2A
48	2A	2A	2A	2A	2A
49	2A	2A	2A	2A	2A
50	2A	2A	2A	2A	2A
51	2A	2A	2A	2A	2A
52	2A	2A	2A	2A	2A
53	2A	2A	2A	2A	2A
54	2A	2A	2A	2A	2A
55	2A	2A	2A	2A	2A
56	2A	2A	2A	2A	2A
57	2A	2A	2A	2A	2A
58	2A	2A	2A	2A	2A
59	2A	2A	2A	2A	2A
60	2A	2A	2A	2A	2A
61	2A	2A	2A	2A	2A
62	2A	2A	2A	2A	2A
63	2A	2A	2A	2A	2A
64	2A	2A	2A	2A	2A
65	2A	2A	2A	2A	2A
66	2A	2A	2A	2A	2A
67	2A	2A	2A	2A	2A
68	2A	2A	2A	2A	2A
69	2A	2A	2A	2A	2A
70	2A	2A	2A	2A	2A
71	2A	2A	2A	2A	2A
72	2A	2A	2A	2A	2A

100%

100%

100°

91°

91%

see 3 pages back 1818

also 1826-1827 and 1828

1882-E Same as 1883

Unit # 4 - 104A River Bottom

420 *Rorid. imperfecta*

273 *N. m.* (65.4.8)

- 6 *Rorid. imperfecta*
- 4 *Paral. r.*
- 1 *Paral. r.*
- 1 *Paral. r.*
- 1 *Paral. r.*
- 1 *Paral. r.*
- 1 *Paral. r.*
- 1 *Paral. r.*
- 1 *Paral. r.*
- 1 *Paral. r.*

432 *Rorid. imperfecta*

477 *N. m.* (64.1.7)

- 1034 Unit # 2
- 3 *Rorid. imperfecta*
- 1 *Paral. r.*
- 1 *Paral. r.*
- 1 *Paral. r.*
- 1 *Paral. r.*
- 1 *Paral. r.*
- 1 *Paral. r.*
- 1 *Paral. r.*
- 1 *Paral. r.*

106A Long River

467 *Rorid. imperfecta*

97 *N. m.* (73.7.5)

- 150 *Lotus Alvarado*
- 1 *Paral. r.*
- 1 *Paral. r.*
- 1 *Paral. r.*
- 1 *Paral. r.*
- 1 *Paral. r.*
- 1 *Paral. r.*
- 1 *Paral. r.*
- 1 *Paral. r.*
- 1 *Paral. r.*

[illegible]

1823-E

Mark enough blanks for 4 rounds
with pencil B on bottom side -
Varnish 2 rounds first on the
Bottom - mark them B-1 -
Varnish 2 rounds first on the top
mark them B-2
Print regular - send all
to Miller -

1824-E

Sec. Inspection Book A.	Page
1500 Records	81, 2 %
1161 "	79.5 "
1372 "	81.1 "
997 "	82. "
6633 "	82.5 "
5939 "	83.9 "
1173 "	65.7 "
811 "	57.8 "
3066 "	83.8 "
1273 "	86.6 "
3678 "	84. "
673 "	81.8 "
2142 "	75.8 "
579 "	85.1 "
3273 "	75.5 "
3536 "	78. "
3268 "	82. "
2609 "	82. "
491 "	76.5 "
284 "	76. "
1262 "	84.6 "
144 "	74.3 "
665 "	81.2 "
478 "	76.9 "
1316 "	78.5 "

fourth

1824-E Regular blank August 16-17
Same as 1666-E for proportions of wood-chalk etc.
" " 1738-E method of mixing,
" " 1508-E method of drying,
" " 1654-E method of grinding and screening,
" " 1605-E packing press rubber pads,
" " 1675 1/2-E packing press pressure 640 lbs,
" " 1781-E Blank press schedule
" " 1819-E
" " 1810-E wood flows used -
" " 1747-E Benchling blank etc

Sec. Inspection Book A.	Page
157 Records	87.3 %
335 "	79.1 "
214 "	89.2 "
3736 "	81.5 "
3318 "	83.8 "
2349 "	78.9 "
1830 "	77.9 "
1704 "	84.6 "

8/21/17

1820-E-1805-E

1825-E-1819-E

(OK OK)
(OK OIK)
(OIK OH)
(OIK DIA)
(OIK OIK)
(OK OIK)
(OK OIK)
(OK OIK)
(OIK OIK)
(OIK OIK)
(OIK OIK)
(OIK OH)

OK OK
OK OK
OK OK
OK OK
OK OK
OK OK
OK OK
OK OK
OK OK
OK OK

[illegible]

OK OK
OK OK
OK OK
OK OK
OK OK
OK OK
OK OK
OK OK
OK OK
OK OK

100%

100.%

100.7%

100. %

1/2 acre
blank
clipped

1 Decard
blank
1 chiped

1825-E

Same as 1824-E except
use 6

60 lbs wood
40 lbs chalk
14 lbs Borax
50 lbs alcohol
2 lbs Gas

Make and drum of above
gun - make up the powder
and then we will know whether
to use 1806 or 1819 for moulding.

1825-E-1827-E

8/21/17

[illegible]

OK OK
OK OK
OK SK
OK OK
OK OIL
OK OIL
OK OIL
OK OK
OIL OK
OK OK
OK OK
OK OIL

①

✓
x
x
x
x
x
x
x

182
 219
 18
 145
 317
 588
 348
 798

Inny
S-E-1
Rec
20-E
Rec
1824
Rec
182
Rec
T

1819
- 152
- E -
5-4
3000

80.3
88.2
80.5
8
7

Box 1
2 70
-15
89.9
81.9
71.70
9.3 72

Page 3

OK 9/23/02
1 alk cracked after
consuming out of body

100.0%

CS11

8/20/17

1821-E

OH 01L	X	OH 01H	X	OH 01L	X	OH 01L	X
OH 02L	X	OH 02H	X	OH 02L	X	OH 02H	X
OH 03L	X	OH 03H	X	OH 03L	X	OH 03H	X
OH 04L	X	OH 04H	X	OH 04L	X	OH 04H	X
OH 05L	X	OH 05H	X	OH 05L	X	OH 05H	X
OH 06L	X	OH 06H	X	OH 06L	X	OH 06H	X
OH 07L	X	OH 07H	X	OH 07L	X	OH 07H	X
OH 08L	X	OH 08H	X	OH 08L	X	OH 08H	X
OH 09L	X	OH 09H	X	OH 09L	X	OH 09H	X
OH 10L	X	OH 10H	X	OH 10L	X	OH 10H	X
OH 11L	X	OH 11H	X	OH 11L	X	OH 11H	X
OH 12L	X	OH 12H	X	OH 12L	X	OH 12H	X
OH 13L	X	OH 13H	X	OH 13L	X	OH 13H	X
OH 14L	X	OH 14H	X	OH 14L	X	OH 14H	X
OH 15L	X	OH 15H	X	OH 15L	X	OH 15H	X
OH 16L	X	OH 16H	X	OH 16L	X	OH 16H	X
OH 17L	X	OH 17H	X	OH 17L	X	OH 17H	X
OH 18L	X	OH 18H	X	OH 18L	X	OH 18H	X
OH 19L	X	OH 19H	X	OH 19L	X	OH 19H	X
OH 20L	X	OH 20H	X	OH 20L	X	OH 20H	X

100. $\frac{5}{6}$

100.0%

100.0%

100 %.

1821-E

[illegible]

91 $\frac{2}{3}$ %

100. %

91 2/3 %

100. %

555

8/22/17

1826-E-1827-E

OK
OKOK
OKOK
OKOK
OKOK
OKOK
OKOK
OKOK
OKOK
OKOK
OKOK
OKOK
OK

X

X

X

X

X

X

X

X

X

X

X

X

OK
OKOK
OKOK
OKOK
OKOK
OKOK
OKOK
OKOK
OKOK
OKOK
OKOK
OKOK
OK

Drop test Califon Point

1.	—	16	195.5
2.	—	2	211.5
3.	—	20	201.5
4.	—	20	206.5
5.	—	20	207
6.	—	2	192
			68 times

Through 4/17

See Inspection Book A
Page
365 Records 72.870109.

100.0%

91 2/3%

1826-E

Same as 1824-E except use —

60 lbs wood

40 lbs chalk

13 lbs Rosin

50 lbs Alcohol

2 lbs Gas Blender

Make one drum above given
make up 200 blanks on 1806
blanks schedule and balance
on 1819 Schedule — send 24 of
each to Building #41

1826-E-1806-E

8/23/17

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See Inspection Book A

Page

539 Records 84.1% 91

100.0%

91 2/3%

8/21/17

1827-E

See Inspection Book A

				Page
OK OK	X	OK OK	X	4931 Records 79.9% 141
OK OK	X	OK OK	X	5150 " 76.1% 142
OK OK	X	OK OK	X	1015 " 80.3% 140
OK OK	X	OK OK	X	2780 " 79.9% 147
OK OK	X	OK OK	X	8852 " 77.9% 148
OK OK	X	OK OK	X	5556 " 77.6% 149
OK OK	X	OK OK	X	2834 " 75.6% 151
OK OK	X	OK OK	X	341 " 65.6% 152
OK OK	X	OK OK	X	1281 " 69.2% 153
OK OK	X	OK OK	X	750 " 59.7% 154
OK OK	X	OK OK	X	1161 " 63.4% 155
OK OK	X	OK OK	X	1889 " 74.8% 165
OK OK	X	OK OK	X	187 " 74.8% 172
OK OK	X	OK OK	X	769 " 69.8% 178
OK OK	X	OK OK	X	4983 " 71. % 174
OK OK	X	OK OK	X	1062 " 66.6% 175
OK OK	X	OK OK	X	1572 " 76.7% 176

100. % 91% %

1827-E

Same as 1824 except change
pressure on blank punch from 560 lbs
to 450 lbs.
Pressure changed to 450 lbs
9.30 Aul 8/21/17

See Inspection Book A

Page

301 Records	90. %	75
407 "	91.5 %	76
3780 "	82.6 %	100
3012 "	80.2 %	101
1840 "	77.2 %	104
1840 "	76.5 %	105
1646 "	82.8 %	111
3336 "	85.1 %	118
2408 "	81.9 %	121
324 "	86.4 %	122
3165 "	83.4 %	125
3718 "	84.8 %	127
1949 "	79.5 %	128
1701 "	84.8 %	129
364 "	88.1 %	133
1902 "	88.2 %	137
1571 "	84.2 %	139
1272 "	73.2 %	140
116	76.7	End B. 21

1828-E-1827-E

[illegible]

1828-E Same as 1824 except as follows:

wood flower like 1811 $\frac{1}{3}$ Hornbeech (Garbique)
 $\frac{1}{3}$ Dupont.
 $\frac{1}{3}$ Union.

1. One bale of each is ground up and
shoveled into the gutter - a shovel
from each bale, then three more
bales are ground up etc. The portions
are not exact as to weighing.

2. 450 lbs. pure iron in blank piece like 1827;
3. 13 lbs. pure iron like 1826.

1828-E

[illegible]

discards
3 Blanche Chipmunk

9/4/17

1830.C

[illegible]

91%	66%	91%	77%
-----	-----	-----	-----

83%	66%	91%
-----	-----	-----

3rd Dec 1881
 4th Dec 1881
 5th Dec 1881

1830-E

Same as 1828-E except with
12 lbs Kozin instead of 13 lbs.

Drop test

Calixto Perutz

1. —	9	316.1
2. —	5	314
3. —	3	314.1
4. —	4	315.1
5. —	3	317.1
6. —	2	315.1

25 times

1832-E

- A. 12 blanks varnished regular let stand 20 minutes and put on another coat then let stand until dry enough for a third coat to be applied and varnish a third time print regular on Michel moulds -
- B. Same as A only put on just two coats of varnish,
- C. Same as A only put on just one coat of varnish,

Use the same lot of blanks, same varnish, same moulds, and same operators for all three lots. Hold for WWD.

all seemed to cook into blank in baking and in the press. seemed a little better with more coats, looked more shiny when it came out of the oven but it all cooked in in the press.

1933-E

Same as 1828-E except that the
sawd flour is weighed out in equal
thirds (this gives a larger proportion
of Union sawd than 1828 as the Union
wood bales are smaller) On the mills
one mill of each pair has a 24 mesh
screen and the other mill a 30 mesh
both were 30 mesh on 1828 and caused
continual trouble.

- Some are marked 1828-E-S.

1835-E Same as 1834 except put the "Shino" varnish on first.

1835 sounds a little louder than the other three

Q. L. Davis, Clerk.
J. M. O'Neil.

9/5/72

1837.00

1837-E

1837-E
Regular to compare with 1834-1536

10.15 4.9

1838-E

Same as 1833-E except $\frac{1}{2}$ Sargent
and $\frac{1}{2}$ Union wood flower.

1839-E

Same as 1838-E except that all mills
have 30 mesh screen. changes in wood from
permits this now, 1½ cans of Union wood that
gave the trouble "sidetracked" to be worked off
later a little at a time,

Drop test

Oct. 11, 17.

1	—	5
2	—	6
3	—	20
4	—	3
5	—	17
6	—	11
		<hr/>
		65

1840-C.

Same as 1839 except and
14 lbs Grain like 1829 -

Make ~~two~~ ^{two} chums - (2793 chums)

Washed well in milk -

Grain 100% off in marketing -

Actual process of Making Varnish 1841-E

Measure $5\frac{1}{4}$ gallons Alcohol with measuring stick in milk can (one spirit can used)

Weight out 150 grammes phenol for each percent of Resinphenol in the resin less than 25%

Example - if Resinphenol is 15% weight out 7K 150g. = 1050 grammes phenol

Weight out 75% of 15000 g. = 1170 grammes of $\frac{1}{4}$ - put in open mixer with alcohol and phenol.

Para solution is 1 part para to 20 parts alcohol - $\frac{1}{21}$ 1% para = 150 x 21 = 3150 gms

Sandara solution is 1 part Sandara to 5 parts alcohol - 150 x 6 = 900 grammes = 1 $\frac{1}{2}$ %

Sandara solution is weighed out in same pail as para, add 900g to the lot after para is weighed. All put into open mixer.

15000 grammes Resol resin sifted into open mixer slowly, after perfectly dissolved, filter thru two thicknesses B grade linen removed

Put three 10 gallon lots as above into enclosed mixer with 2106 grammes Shino - run one hour. Shino is put in day after dinner

Put thru filter press and divided into three equal lots in milk cans. Filter press has 2 thicknesses grade D linen.

1167 grammes gas black added to each lot. Stirred in in a milk can then put thru small paint mill once and then thru large paint mill once.

Take viscosity of each 10 gallon lot. If viscosity is 8 min put in several pints of alcohol and take viscosity again. One pint may reduce viscosity 20 seconds but this varies with the phenol resin. After one can is corrected the other cans can be corrected with fewer approximations.

Sample 9 - 10 gallon lots required 12 gallons alcohol to be added and produced 90% gallons

1841-E.

Large as 1471-E and 1019-E except - use 2% lampblack and 1 $\frac{1}{2}$ % Shino -

When viscosity is not increased viscosity 1.29

1019-E

1511 Danislo

100 grammes of 16% Solignum

6" Phenol to make 1%

1" Para

1" Xanthine

7.5" $\frac{1}{4}$ Visc

156. Phenol added

5% of total pot. as above

Impure Shino in white

paint as sold

Viscosity 1.29

1471-E

1000 grammes of 15.1% Solignum

6.9% Phenol

1" Para

1" Xanthine

7.5" $\frac{1}{4}$

200 - Viscosity

2.8% Lampblack or 10%

weight of above

run thru filter press once

Shino - three times phenol

single, three times

paint mixer

Start 150 Alk. White about 17% Alcohol

to make 5% Visc Varnish

one gallon is about 15 times the above - actually mixed in the gallon lots - 150 times above. see opp. page. for 5 min viscosity, about 12.5 times above

END

1542-C

Regular formula 1471-E
except use 7.7 of 6/4 instead of 7.7
Phenol in train 16.1
Added 5.9
viscosity 2 min. in contact O.K.
Made 2 quarts -

1843-E Two bags wood flour from
Kramer

Marked No 3 and No 3 Special
test -

8.5 moisture	11.5 moisture
2-6 Resin	2.8 Resin
99% 75 Starch	100% 33 starch
84% 50 "	98% 30 starch
44% 100 "	79% 100 "
32% 180	57% 180 "

Use 25 lbs above mixed -
25 lbs Union
10 lbs Crane Union -

1844-E

Nov 15, 1917

Nov 12 - 4 OK.

Nov 12 - $\frac{5}{9}$ OK. ~~to 26~~

Printed and all Pro Gts
put up on the shelf in bldg # 4 (11-15-17)

1844-E Solvent Naphtea 'instead' of Ascorbol

1845-E

(Regular schedule for baking Varnishes)
blanks is 3 hours at 130°F.

Take out 100 blanks after baking only
1 1/2 hours - Inspect for low spots
but for wear.

#3

1839 C. Quid #10 - 1845-E 11-7-17

Wilbur's inspection of Quid #10.

" Inspect "

1 + 2 = 3

12 Total inspection

30 Total inspection

This is not inclusive because not due to the
alcohol remaining in the blanks or under
the varnish W.O.

1846-E 100 blanks same as 1845-E
except dated only one hour - Print regular,
except for low or rough spots & wear
#1
1839-E Unit # 4 Dec 14/46-E 11-7.

99 Blank in space 7 6/10/46 O.T.

- 1. 1/2 inch
- 2. 1/2 inch
- 1. 1/2 inch
- 5. 1/2 inch
- 17. 1/2 inch
- 12. 1/2 inch
- 38. 1/2 inch

This is not a mistake - don't worry
re: remaining in the same state as records
the same as 1846.

1847-C.

1848-E.

100 gms Regio 15:5% F.P.
6.5 " Genol.
1 " Genol.
1 " Sayd. d. w. w.
7.8 " 4
19.5 " Dr. Alleg.
3 1/2 % S.B. + 1/2 % L. w. on
Total weight of mixture

1850-E

Same as 1824-E except

75 lb wood {Kramer-regent 50 lb.
Union 25 lb.

25 lb chalk

12 lb rosin

50 lb alcohol

2 lb gas blash

Make only one drier full and
keep carefully separate from
other powder.

Make up 100 blanks first for tests,
varnish and print regulated, use
test moulds on two prints for
comparison of surface.

moulds dirty -

116 made 9 pullouts 3 each 3 tilt edges.

ginder sample 83% 180.

73% 330.

out 99% 180 85% 350 -
ground and screened good.

1851-E

Powdered screened than 180 mesh hand screen, A

2689-H-3-38 } NS3-A metal mould
2650-A-1-42 }

2689-H-3-38 } NS2-A
2650-A-1-42 }

2689-H-3-25 } CS1-A copper mould
4112-A-3-60XX }

Same powder not screened special - B

2689-H-3-38 } NS3-B
2650-A-1-42 }

2689-H-3-38 } NS2-B
2650-A-1-42 }

2689-H-3-25 } CS1-B
4112-A-3-60XX }

Special screened powder all cracked but
showed more quiet surface, tho not perfect. Too
large a percent of wood taken out and sounds like
all chalk blaw - too solid - no elasticity.

Dec. 13. 1911

1852

Drop test	
1. — 2	1. — 2
2. — 4	2. — 4
3. — 3	3. — 3
4. — 3	4. — 3
5. — 2	5. — 2
6. — 2	6. — 2
total 14 times	

100%

1852-C.

Examined and found correct
of 12.25.

354 printed

2	Beavers pull out.
2	P.V. on labels.
3	cracked centers,
1	thin.
5	wedge.
3	scratches,
17	snaps
15	rough lips to -

Machine test 1 rough spot
1 wedge
9 samples

Total OK. 83.3%

1853-E

Small cylinder screen 10" x 32" with spiral conveyor inside 180 mesh wire, 8 rows 8 times per revolution at one end, 24 convolutions of spiral,

100 lbs	powder - put thru -
	1st fine 35 1/2 lbs fine
tailings	2 ^d time 20 " fine
"	3 ^d time 10 " fine
	<hr/> 65 1/2 total fine 34 1/2 lbs

Make fines into blanks, varnish and print on special selected materials.

fine powder tested	100% 150 mesh
	86% 350 mesh
tailings	tested
	{ 88% 150 }
	{ 52% 350 }

Shows that 12% of the 34 1/2 lbs or about 4 lbs of the original 100 lbs would not pass 150 mesh but the original 100 lbs was supposed to have been tested 99% 150 mesh -

All blanks but one cracked.

Screen is not efficient as tailings contain 88% 150 mesh and nearly all the wood,

1854-E

Experiment to free particles thru the screen by pulsations of air thru the screen both ways.



This process very slow and only took out $\frac{1}{2}$ of the fine after a very long time, (35 min)

40 gms
after 35 minutes
25 gms thru
15 gms tailing

Two blanks made from this powder give very good surface but are not ideal - This does not solve the problem.

GOO

1855.E.

Same apparatus as 1854.E but with the lower box removed.

After 4 minutes only 18.7% of the tailings will pass thru 100 mesh screen.

This looks very promising - A larger ^{unit} box to allow compression of the air will make this a very efficient machine.

Had son can fitted up to take place of box.

From River Books 7-RD 82 59B

1856-E Printing press
Thick sides of wedge all on same side

¹² Blanks selected for worst wedges			¹² Prints at thick sides put together		
High	Low	Thy.	High	Low	Thy.
286	222	62	228	222	6
					improvement
					+ 56
287	195	92	210	199	11
					81
274	230	44	233	210	23
					21
276	215	61	222	208	15
					46
293	220	75	223	221	2
					73
263	193	70	214	196	18
					52
279	203	76	212	200	12
					64
258	210	48	213	185	28
					20
300	207	93	221	198	23
					70
266	209	57	224	194	30
					27
265	203	62	199	194	5
					57
280	228	52	222	211	11
					41
277	211	66	218	203	15
					51
					all 6th

This shows a great improvement in printing press of wedge blanks when the wedges are placed in the press with thick edges all to the same side - the average improvement is .051.

Same experiment was tried with blanks thick and thin edges alternating. All but one were improved - average improvement was only .015

2412. from record book -

1857-E

Use a discarded record or a discarded varnished blank on each side of records in edging machine to prevent chipped edges on the outside blank. Use this with the large clamping disc.

Dec 3-1917

1858-E

1841 varnish 3 minute viscosity,
Blanks baked two hours at 130° F.

Blanks that show dull areas are
revarnished with the same varnish
except one minute viscosity the
same as local patching, then
baked again at 130° for 2 hours.

From December 17-17 all local
patching discontinued for this project.
From Dec 22 all blanks given two
coats varnish as above except
some carefully selected to keep
ahead of painting.

5861 prints gave 89% GL an eye
and machine inspection, and a very
slightly better surface than one coat.

Troubles with many varieties of
wood flow about this time made the
results of all varnish experiments
very uncertain.

2153

1859-E

Same as 1958-E except that the thin coat is $1\frac{1}{2}$ min viscosity instead of 1 min.

// Varnish stoved out around the edges of prints and caused injury to moulds.

Suggest experiments with more Para and $\frac{1}{4}$ to prevent this.

{ 33-R was made up with $1\frac{1}{2}\%$ Para
34-B was made with $2\frac{1}{2}\%$ Para

1860-E

Same as 1858 F except that
both coats are 3 min.

Same defect as 1859 only worse,
suggested longer baking and higher
temperature to cure varnish more -
varnish baked & brown at 130° showed
little if any improvement in flowing

Surface test 48 faces
39 good
8 fair
1 run out at start

40^{100%} expected - no varnish defects -
— 82 1/2% OK,

Surface test 44 good
3 fair
1 run out
82 1/2% OK,

Surface test 48 faces
45 good
2 fair
1 run out
65% OK

No varnish defects,

1861-E

one quart 3 min 1841 varnish
except 7.9. of 6/4

varnish and bake 2 hrs at 130°F,
re-varnish and bake again 2 hrs at 130°F,

Surface test

48 faces.

45 good

2 fair

1 run out at start

No varnish defects,

65% Q.M. all due to blank def.

1862-E

One grant 3 min 1841 varnish except

8.0 6/4

apply this coat to varnish 1861-E

1830-E Blanks.

Surface test 449 rods
3 fair
1 run out

41 rods rejected 82.4% OK, no discards
from variable defects,

1863-E

See quart 3 min 1941 barrels
except 7.9 of 6/4 and 1.5 Pma,
apply 2 each same as 1861-E

Surface test

47 good,
1 fair.

40 printed 87 $\frac{5}{8}$ % OK, no varnish
defects.

1864-E

One quart 3 min 1841 varnish except
810 6/4 and 1.5" from
applied ^{to} surface per 1861-E

1865-E

Same as 1824 E

inc 20 lb min

20 lb Dupont

20 lb granular wood

12 lb Picin

2 lb Lampblack

50 lb Alcohol

Run regular until granular wood stock
is used then change to 1866-E

Varnished with 2 coats 1541-E - 5 min. dries.
 152 prints. 8 pull onto an label. Printed on ringbinds.
 2 parallel cracks.
 1 thick.
 5 snags.
 3 rough spots.

87.5% OK

Drop test -

1 - 20
 2 - 16
 3 - 3
 4 - 9
 5 - 12
 6 - 12
 72

164 prints
 82.9% OK
 1 pull onto an label
 1 radial crack
 5 wedges
 8 thick
 5 pull onto an inside
 1 snag
 1 silver spot
 1 rough spot,

1866-E

1827 100 pressure

Same as 1824 E except as follows -
 use 30 lbs. brass
 30 lbs. Dupont or Hornblow
 12 lbs. Brown
 2 lbs. Lampblack
 50 lbs. Alcohol

Gunpowder 9.9% moisture
 Dupont 4.5% moisture.

1867-E suggested by Mr Gray.

Regular blank 1530
Pressed between two polished moulds
on regular printing schedule -
Varnished one coat 3 minutes (1841-E)
air dried $\frac{3}{4}$ hour -
2^d coat same varnish (1841-E)
baked 2 hrs 130°
Printed regular -
very smooth surface -
but not nearly as smooth as 1869.

1868-E suggested by M. Gray
Same as 1867-E except baked
~~same~~ after each coat of varnish.

Smells about same as 1867 but not
as smooth as 1867.

78 faces tested for surface

77 good

1 run out at start.

Lucas test 250 times OK.

edging 100 %.

Much better surface than 1867-1868

1869-E.

Blauholz 1530-E

Varnished with 1841-E-3 min viscosity - varnish
two coats - air dried about 30 min between coats
Baked on an old schedule used for transfer
plates (marked WD 1 on metal template). Temperature
run to 145°. Total time 5 hours.



Mr. Kirchen suggested this schedule to dry out
the alcohol at the lower temperature so as to stop
the bubbles which troubled us with very thick
varnish. The long bake cures the varnish to
the rubber state and prevents flowing over
edges and making large bubbles.

1870-E

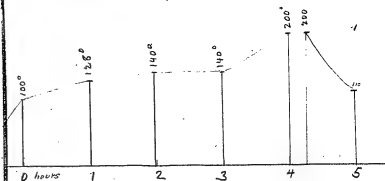
no 3 bake

Blank 1830 E

Pinchwa No 22 - no 3 bake

2 coats 1841-E varnish air dry $\frac{1}{2}$ hour between coats.

Bake in dispenser shown below.



Surface test on styrene.

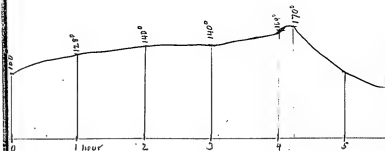
46 good

8 $\frac{1}{2}$ D at start

2 fair.

Blanks full of blister but print out OK.

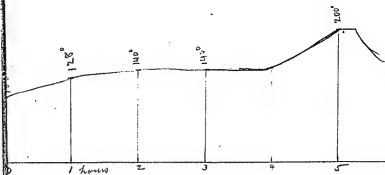
1871-E Kundus no 23
Blauho 1830-E



Flow in printing.

1872-E

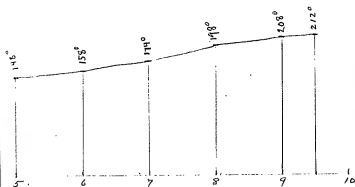
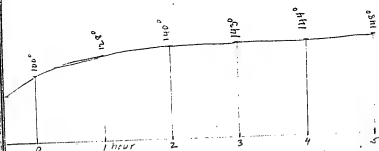
Kindness No 24 7:54 Barlow -



Barlow full of blisters

1873-E

Bathing schedule.



1886-E Blandin painted two coats 1841-E New, 3rd div.

1395 Painted	Inner wall coat	15
1037 B.K.	Outer edge	17
358 Bincade	Bottom side	21
	Bottom on	30
	Radial coat	182
	Edges	19
	Top	7
	Thinner	5
	Grays	51
	Plough depth	558

Surface very good

(155)

1874-E First 9 hours of 1873-E baking
schedule.

1875-E

First 8 hours of 1875 E fishing schedule,

1876-E Make one quart Varnish -

100 gms Resin (Resin contains 15.1%)

6.9 " Phenol to bring free phenol up to reg.

1 " Para.

1 " Blandane.

7.8 " 6/4

135 " Alcohol

viscosity 500

Varnish 1 coat 3 min 184/229

air dry

varnish 1 coat of 1871-E

Bake on special schedule 1873-E

119 printed no flow and few blisters.

60 OK.

59 discard

Cracked edges 2

Paint on label 41

Paint on back 3

Paint on back 1

Thin 1

Thick 2

Sealos 8

18 septos 1

59

Note no pers prints
bake 9 hours

Blanks made by unit 6,
 Blanks badly wedged
 Made by unit 6,
 of 24 blanks -
 Blanks, average low 223 high 257 d^g 34
 Records, " " 191 " 240 " 49

1878-E

Make one drum 18 mixed powder
 32 pounds Deepouthard,
 32 1/2 " Dism. Wood,
 12 " Flour,
 35 " Chalk,
 50 " Alcohol
 2 " Lamp-black -
 Mould regular -
 Finish special -
 Print regular -

This experiment is not satisfactory, since
 tailings could not be reground and mixed in
 with powder

797	permitted	slight edge	24
569	OK,	both eyes	25
228	round * Thin		135
71 1/2	OK	* Wedge	46

Both thin and wedge were caused by powder
 being lighter and strike off left higher above ring.

Drop test 24 surface below average -

Blanks 1879-E
Made on unit 4

	low	High	Dif.		low	High	low
1	247	260	13		229	232	8
2	236	253	15		205	229	24
3	226	249	23		216	224	8
4	225	254	29		203	231	28
5	229	263	34		228	235	7
6	241	260	19		207	212	5
7	216	242	26		214	229	15
8	237	252	15		214	233	17
9	239	261	22		234	236	2
10	239	257	15		216	231	15
11	248	269	21		220	227	7
12	220	216	26		200	215	15
13	245	264	19		220	239	19
14	241	243	3	average	207	222	15
15	238	263	25	low 238	216	237	11
16	231	247	16	high 257	205	219	14
17	246	268	22	diff 19	215	220	5
18	241	257	16		210	225	15
19	256	273	17		217	229	12
20	239	255	16		221	225	4
21	232	246	14		220	225	5
22	264	268	4		203	220	17
23	244	262	18		203	217	14
24	258	278	20		211	226	15
25	242	255	13		212	222	10
26	228	254	26		199	223	24
27	227	265	28		209	221	12

1879-E

Experiment for wedge blanks
and records.

Increase pressure of contact.

Make 2 rounds blanks 225 lbs.

Buildup -

Vannich Coats 1841-Elm. Bate 1870-E

515% OX.

Injection 7 parallel cracks

3 radial cracks

3 Vannich pull out.

13

Compare opposite page with 1850-E
may all be in different unit making
two blanks. See also 1878

Tradeau mit 6

1880-E

	Blanks			Records		
	Low	High	Diff	Low	High	Diff
1	230	252	22	199	235	36
2	247	264	27	208	225	17
3	232	264	32	205	229	24
4	232	260	28	214	241	27
5	232	255	23	205	224	19
6	248	283	35	207	225	18
7	232	245	13	219	238	19
8	215	257	39	205	237	32
9	209	265	56	198	219	21
10	240	250	10	211	239	28
11	236	251	15	223	230	7
12	230	247	17	213	225	12
13	231	264	33	215	234	19
14	239	250	11	229	239	10
15	220	253	33	207	231	24
16	210	219	9	discarded		
17	238	266	28	213	238	25
18	236	289	53	207	231	24
19	234	243	9	206	220	14
20	244	261	17	217	231	14
21	246	253	7	218	228	10
22	223	247	24	193	231	38
23	224	270	46	195	234	39
24	216	243	27	196	202	6
25	236	264	28	211	240	29
Adj	234	259	25	208	221	23

1880-E

Experiment for dedging blanks and records.

Make two records starting with full pressure -
Calliper,

1865E blanks low 2 casts 1894E 300mm viscosity.

Make 1864E schedule.

Print 225-lb contact pressure.

25% O.K.

Biscuits parallel etc. 7

Radial cracks 4

Vanish 0.0 on edge 7. ^{at center -} due to vanishing flowing.

15

Seems to make more endogs

More Surface

Sound very much rougher than regular.

These blanks flowed considerably more than the regular blanks.

On account of coarser grinding they probably require a larger percentage of chalk as was the case when the used coarser powder.

1881-E

Make 125 blanks with powder direct from grinder. Be careful not to get it contaminated with any regrind filings. Also keep regular powder from mixing with it in dry press etc, also do not get streaks off from this mixed with regular particles.

Blanks will come flatter unless strike off blades are raised. Make this press in which wider parallel strips have been used.

Varnish 2 coats 5 min varnish -
Bohr 1875-E schedule -

113 printed

3 boxes for c. l.

16 parallel ck

12 radial ck

11 wedge

*As indicated
made previous* } 23 thick

1 Rough & flat.

67 scrap.

49K 407%

Test for surface 18 good
 5 fair
 1 Run out.
 24 tested.

1892-E

1865-E Blanks

Bake 100 blanks for 30 minutes to dry them out thoroly (over 130°)

Varnish 1st coat while blanks are warm air-dry for one hour put in cold oven ~~with plate rack~~ and bring up to 130° in one hour. Then apply second coat and start in cold oven bake on schedule 1875 E to 8 hour point.

1841-E Varnish: Diminishing

Blanks show a little more gloss than 1875-E same varnish.

94 printed 35 OK.

- 14 brass pull outs.
- 2 P.O. on label.
- 9 parallel cracks.
- 16 radial cracks.
- 16 cracked blanks.
- 1 low spot.
- 1 snafu.

169 blanks -

first regular

3/6/18

~~169~~ 2 coats 189 lbs baked 9 1/2 hours.

141 records received.

129 O.K.

2 Paint and oil label

2 mould injury

2 dents

2 low spots

3 snags;

48 sides tested

19 fair surface

12 good surface

13 bad surface

4 run out

91% O.K.

no cracks

Surface

Rough -
Paint must be
screened -

48 sides tested

19 fair

12 good

13 bad

4 run out

1883-E

Like 1827 except as follows,

27 1/2 lbs Union Wood, } 55 lbs wood.

27 1/2 lbs Dupont Wood,

45 lbs chalk.

11 lbs I Rosin.

50 lbs Alcohol

2 lbs gas black.

Make up 100 blanks with this powder as
it leaves the grindure.

~~Make up 100 blanks with this powder as~~

Varnish 2 coats 1841 5 min. vis.

3/7/18

Prints regular -

349 printed,

5 vases pull out.

3 pull out on label

1 radial crack,

4 moulding

14 white spots,

25 cracked blanks,

13 low spots,

7 traps,

79% 6/4,

48 sides tested -

35 - fair.

6 - bad,

4 - good.

3 run out.

tailings from 1865-E made
this rough,

1854-E

1883 Powder from grinder is
mixt in recirculating with 1/3 tailings
from 1865-E powder,
would regular

Vermont 2 coats 5 in. wide 1841-E
Bath 9 1/2 hours.

149 records received

1 vases pull out.

1 crushed edge

12 p.O. on label

1 radial cracks

8 cracked blanks

2 cracked center

5 low spots

1 snap

1 silver spot,

3/6/18

117

78% OK

48 sides tested

29 fair

7 run out

11 loud

1 good

tough -

powder must
be screened

1885-E

55 pounds paper pulp, cut up to
woodst and then run thru

Schultz Oil Mill,

45 lbs chalk -

11 lbs rosin

50 lbs alcohol

2 lbs lampblack -

Make up 100 pounds as it leaves
the grinder - hold remainder -

1886-E

Batch 100 blanks like 1882-E
except use varnish 5-min viscosity
instead of 3 min as in 1882

1841-E Varnish

12 printed 1873-E blanks. 10 OK,
 Surface land - 2 discarded for poor prints.

	686 printed	3/6/15
	6 better pull out	583 OK
	17 p.O. on label	84.9 %
3 min	2 parallel cracks	
after	18 radial cracks	
200 marks	8 wedges	
before	10 thick	
high pressure	34 snaps	
	2 poor print	
	6 rough spots	

Good.

1887-E

Printing schedule.

Contact - to line on thermometer 200°
 hold on contact for 2 minutes,
 Full pressure for 10 min.

try this on 9 1/2 hour baked blank 1873-E

also on 6 hour bake 1873-E curve.
 trouble 5 Varnish -

Kinder tried 2 min <u>acetylene</u>	} no cracks
and then 3 min. 100% OK.	
4 " 20% poor prints	
5 " all poor prints	

All printing changed to this schedule
 March 5-1918 - 3 min. low pressure
 after thermometer reaches 200° then
 9 minutes on high pressure.

At the same time I started Kinder on this schedule
 to soften ~~flatt~~ blank. I had Clancy make up
 a pair of embossed ring moulds E-14244
 they were used to make 27 prints at night March 6
 all were free from cracks March 7 all moulds
 made were embossed. W.D.

Schedule could never be used with soft varnish.

CMS

1888-E

Special Bating Schedule - Kinder

1899-E

Special Voting schedule - Kinder

END

1890-E Special Baking schedule - Kitchen.

1891-E Egt - Christman
1/2 pint 5 min viscosity, 1841-E Danish -
with 1/2 of one percent Aviline oil.
Got this out - stopped it and told Christman
that we do not want to start anything new like
this that would take a long time to prove out,
W.D.

1892-E Varnish Exp.

100 grams Resin

plumel to bring free plumel up to 22%

1 g. Para -

1 g. Sandarac.

7.8

~~1 g.~~ 6/4

alcohol dilute to 500 ml.

~~2.1 g. 2.1 g. on 100 ml. of alcohol.~~

~~6.4 g. 6.4 g. on 100 ml. of alcohol.~~

13.75-

8 g

stems

~~1 g.~~

Grass black -

1893-E

Vanilla Exp.

100 g. resin

Phenol to bring free phenol to 22%

1 g. isava

10g. sandarac

7.8 g. $6\frac{1}{4}$

Alcohol to dilute to 5 min visc.

$3\frac{1}{2}$ g. Gas black

2 g. Shino.

1894-E

1114 Blanks recd.
660 OK.

slight edge 90
into edge 45
thin 42
wedge 255
pull into 3

60% Records

454 gals.

1 keener pull out

3 crushed edges

31 pull into an label

11 parallel cracks

8 radial cracks

20 wedge

13 thick

14 snags

1 silver report

16 rough report

118 discard -

80% OK,

1894-E Like 1827 except as follows:

2 1/2 lbs min wood, } 55

2 1/2 lbs Expant wood, }

45 lbs chalk

11 lbs I Brim

50 lbs Alcohol

2 lbs gas black,

(Packing press
bags)

Make one drum of Rinin solution -

Make 100 blanks just as it leaves grinder
and mark 1894-E-A, Spindle rough-venish
do not draw it up,

In screening the remainder mix with
takings from 1866-E 2-3 as usual,

1895-E

Printing schedule.

Contact to line on thermometer 200°F.

hold on contact for 3 min.

Full pressure for 5 min.

This is a development from 1889-E and saves 4 min on each schedule - ^{significantly high}

Started 10 AM, March 9-18 - after wear test showed it to be O.K. Planks are baked 9 1/2 hours - 1873-E schedule - run all day.

Pressure increased to 700 lb from 600 on printing presses. to take care of ring moulds and prevent low prints, 1896-E

Gives O.K. wear test, but one are afraid to use it as varnish may not be absolutely cured and may peel - stopped 6 PM.

1896-E-

Pressure on printing hydraulic press
changed to 700 lbs March 9-10 AM.

Blank is soft and makes nearly
a full print with only 40 lbs pressure
for the first 3 minutes contact period
after the 200° line is reached,
stops low prints suggested by reduction.

Notebook Series -- Notebooks by Edison and Other Experimenters
Disc Record Book No. 26
Notebook, N-18-03-11

This notebook was used by William W. Dinwiddie during March-April 1918 for notes on efforts to improve the surface quality of Edison disc records. The entries pertain primarily to a sequence of experiments numbered from 1897E through 1975E. Most involve experimental lots of record blanks constructed by different methods, prepared with various varnish compounds and methods of varnishing, or printed according to different schedules of heat and pressure application. The notes generally take the form of instructions describing the experimental records wanted, accompanied by evaluations of the test records produced. One entry mentions work done during the "strike of blanks makers" on March 26-27. Several pages of additional notes by Archie D. Hoffman, consisting of caliper measurements for experimental record blanks, have been pasted into the book. The notes indicate that some of the caliper measurements were performed by an experimenter named Haviland and that Dinwiddie also received assistance from Peter C. Christensen and John McMullen. Among the unselected loose items inserted into the book are several cursory notes by R. Voorhis on celluloid records printed in May 1918, as well as notes by Dinwiddie, C. Hiles, and Charles G. Kircher. The front and back covers are labeled "26." The pages are unnumbered. Approximately 120 pages have been used.

March 11-18

1897-E Contact pressure on printing
schedule on one press changed to
40 pounds - temporary connection to cooling
water line. (35 to 40 lbs.) Run one
set of moulds to test result.

1865-E Blanks.

3-18-18

2 Coats 1898-E 5 min visc
 160 Blanks painted
 157 Blanks painted
 3 pull onto on label
 2 nudge
 14 low spots
 4 surface

1873-E schedule
 2.5% O.K.
 Painted 1887 schedule
 85% O.K.
 (surface fair?)

1866-E Blanks

65 painted
 5 pull onto on label
 6 parallel cracks
 3 poor prints
 9 nudge
 5 rough spots

56.9% O.K.

Surface very good 9
 good 2
 rough 1

1866-E. Blanks

62 painted
 6 pull onto
 16 poor prints

64.5% O.K.

1898-E Varnish 2 1/2%, run to 51 47 sec vis

100g phenol resin, 14.7% phenol
 7.5 pheno to bring free phenol to 24%

1 g. paraffin
 1 g. sandarac

7.5 g. 6 1/4
 Alcohol to dilute to 5 min visc after
 gas black & skins have been added,

5 g. gas black
 3.1 g. skins

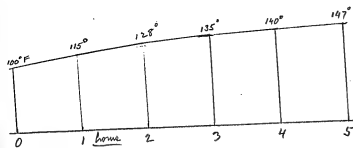
2nd lot 16.8% free phenol - 28 sec viscosity, run number 50

1899-E Exp. to reduce pull onto one
label.

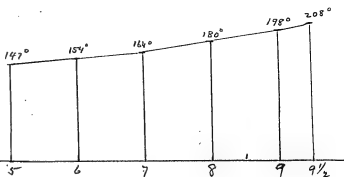
Leave center 3 inch circle in
the blanks with only one coat of
varnish.

Make 24 blanks - Same as 1873-E
schedule.

1841-E varnish 5 min. line,



1900-E special open schedule -



1865-E 10 barrels - 2 coats 1891-E Kanish 5 barrels

1179 printed

- 1 barrel pallet
- 2 barrels edge
- 31 pull onto an label
- 11 pallets each
- 8 pallets each
- 3 twigs
- 5 sticks
- 12 sticks
- 30 sticks
- 41 sticks
- 149 total sticks

$$\frac{87.3\% \text{ OK}}{3/13/18}$$

1866-5 Blanks var coats 5 minutes,
40 blanks printed. (Bole 1873)
6 p.o. on label,
1 parallel each, 75% DK,
3 wraps, sand came

Adverse sure to have been printed on a single
pair of new moulds to see if varnish had
hard spots,

1901-E Varnish experiment

same as 1898-E except that the
ground phenol resin is screened thru
100 mesh screen to prevent large particles
of "insoluble" resin from getting in,

1866-E Blawie - Nav 2925 - 5 min. vicinity

36 printed

11 p.d. on label

3 paper prints

22 Q/L

} 61,1% O/R,

1902-E Same as 1901-E except that
"shine" is left out entirely.

1903-E Spiral oven schedule bake $9\frac{1}{2}$ hours, same
up to 200°-

about same as 1973-E
no difference shown.

1866-E 156 units

var 2 cents - 5 min. trisacetyl, 1873 beke

38 blanks printed

3 pull out on label

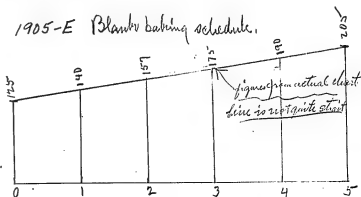
35 O.K. 92, 1% O.K., 8 others printed

1904-E Same as 1895-E except
use 2 g. sandarac to stop
bubbles

60 blanks banded } 80% OK.
 50 printed }
 48 OK }
 1/2 parallel cracks } 90.5% OK.
 1 wedge }
 2 anaglyphs }

See 1908-E

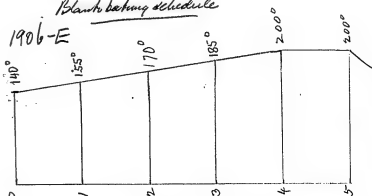
1905-E Blanks baking schedule.



60 blanks 1841-E 5 minutes, two coats - only two large bubbles on top each.

Blank baking schedule

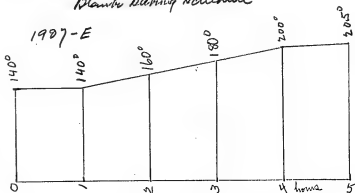
1906-E



60 blanks 1841-E - 5mm vice, 2 coats.
 N.C., very large bubbles - max in top inch,
Not printed - few without
large bubbles -

Blanks let to good after baking,
 60 Blanks banded -
 60 " printed
 54 OK,
 1 minor fault
 3 radial cracks
 1 poor print,
 1 snap,
 90% OK,

Blanks baking schedule



60 blanks - 1841-E - 5 min viscosity 2 coats
 no bubbles, (see 1912 and 1913)

Blankets look a little rough,

60 Blankets varnished } 100%

60 Blankets painted }

52 OK,

3 ridge

3 thin

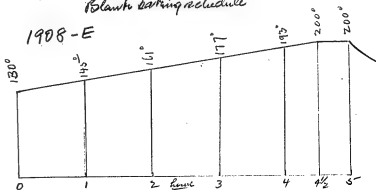
2 wraps

} 86.6% OK,

100% as far as varnish is concerned

G-0011,
Blank baking schedule

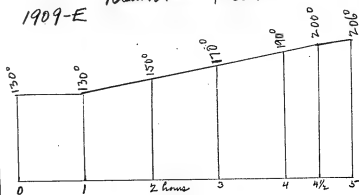
1908-E



60 blankets 1841-E varnish 5 min viscosity - 2 cents,
no bubbles

60 blanks varnished
 52 printed
 48 OK, } 92.3% OK, 80% OK.
 1 wedge.
 1 thin.
 2 cups.

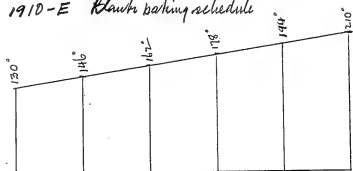
1909-E Blank testing schedule -



60 blanks 1841-E Varnish - 5 min viscosity
 - 2 coats.

A few bubbles in top rack only,
 blanks full of small bubbles and
 rough.

1910-E Route baking schedule



1866-E Blanks

60 blanks finished

31 Blister

1 chip edge

1 crutch

27 OK printed

2 pull onto on label

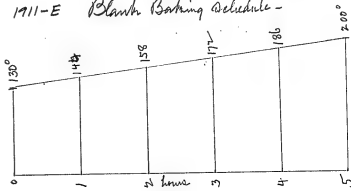
1 radial crutch

1 press print

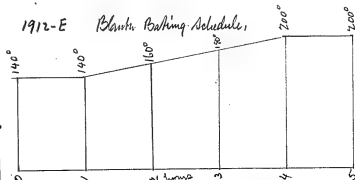
45% on backing

85% on printing

1911-E Blank Baking Schedule -



60 blisters 1866-E bannished ^{1901-E Sp. in}
 34 blisters. Very large bubbles
 1 chapt. edge, 40% embossing
 1 cracker
 24 S.M. printed, Surface smooth
 2 bridge- } due entirely to blisters
 2 thick }
 only 40% on tabling but
 100% on printing.



See 1907-E - nearly the same.
 but a little softer than 1907

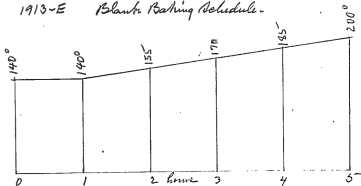
- 60-1866-E Blanks varnished 2 coats
 11 drier
 1 shift center surface rough
 1 crack -

47 printed

- 1 crinkled edge
 2 pull out
 1 stain
 3 rips
 2 rough spots

50% on printing,

1913-E Blank Baking Schedule



See 1907 and 1912 - a little
 softer than others,

39 prints
 13 pull out on label
 3 parallel crack
 1 wedge
 4 poor prints

46 \pm % OK,
 Surface OK,

1914-E Varnish Exp

Same as 1898-E except use 1.5 para.
 Use Run No 50 phenol resin,
 Make one quart.

37 printed,

1 crushed edge
15 pull out on label
2 radial each
1 per print
3 wraps,

40% O₂,
Surface O₂,

1915-E Varnish Experiment

Same as 1914 except use phenol Resin
run number 52

# 1916-E 28 Rd Blanks				3/16/18		
Low	High	Diff	Low	High	Diff	
1 256 -	268	12	227 -	235 RA	8	
2 252 -	289	37	219 -	242 RA	23	
3 250 -	262	12	Bltn	RAK		
4 240 -	266	26	Bltn	RAK		
5 256 -	273	17	224 -	237 RA	13	
6 249 -	272	23	221 -	244 RA	23	
7 234 -	304	70	Bltn	RAK		
8 253 -	270	17	Bltn	RAK		
9 246 -	264	18	Bltn	RAK		
10 221 -	267	46	Bltn	RAK		
11 251 -	262	11	Bltn	RAK		
12 213 -	260	47	187 -	220 RA	33	
13 242 -	285	43	225 -	241	16	
14 242 -	276	34	Bltn	RAK		
15 245 -	265	20	215 -	236	21	
16 231 -	276	45	Bltn	RAK		
17 253 -	269	16	Bltn	RAK		
18 251 -	285	34	210 -	241	31	
19 243 -	255	12	Bltn	RAK		
20 250 -	273	23	213 -	236	23	
21 220 -	282	62	Bltn	RAK		
22 230 -	260	30	Bltn	RAK		
23 234 -	285	51	Bltn	RAK		
24 255 -	298	43	230 -	239 RA	9	
25 246 -	261	15	205 -	235	30	
26 250 -	279	29	213 -	240	27	
27 224 -	294	70	Bltn	RAK		
28 234 -	268	34	204 -	235 RA	31	

1916-E

Make two rounds blanks
regular except hold pressure
in small for a few seconds
while counting fine

Calliper for wedges -

Pressure is 640 lbs.

Blanks seemed to strike too much
on varnishing that enough were printed
to make a bad showing for wedge -

See 1919-E

16 blanks wedge over 25
4 records of the few printed

1917-E		26 Special Blanks 3/16/18			
Low	High	Diff	Low	High	Diff
1 274	- 283	9	229	- 242 A.C.	13
2 286	- 282	16	216	- 229	13
3 285	- 275	20	227	- 248	21
4 228	- 272	24	Blister	AK	
5 241	- 278	32	Blister	AK	
6 246	- 271	15	Blister	AK	
7 245	- 270	15	Blister	AK	
8 248	- 287	19	226	- 240	14
9 246	- 260	14	229	- 238	9
10 234	- 267	33	Blister	AK	
11 242	- 257	5	Blister	AK	
12 245	- 287	28	217	- 242	25
13 242	- 267	25	Blister	AK	
14 251	- 266	15	223	- 235	12
15 238	- 257	19	Blister	AK	
16 247	- 277	30	Blister	AK	
17 239	- 252	13	210	- 221	11
18 247	- 273	26	223	- 240 A.R.	17
19 247	- 283	36	Blister	AK	
20 245	- 269	24	Blister	AK	
21 248	- 299	30	Blister	AK	
22 254	- 270	16	Blister	AK	
23 248	- 261	13	223	- 230	7
24 234	- 255	21	Blister	AK	
25 234	- 244	10	Blister	AK	
26 240	- 270	30	209	- 232	26

1917-E

Make two rounds regular 1866-E
Blanks, hold pressure like 1916-E
Increase pressure to about 725 lb.

See 1919-E

8 blanks wedge over 25"
1 record of three printed,

# 1918-E 26 Official Blanks				3/14/18
Low		High	diff	
1	242	272	30	214 - 224
2	244	263	19	220 - 228
3	270	276	16	222 - 227
4	239	249	10	207 - 228 ^{date}
5	245	266	23	233 - 251 ^{date}
6	250	265	15	220 - 227 ^{date}
7	246	251	5	216 - 234
8	260	266	6	220 - 240
9	247	261	4	216 - 226
10	247	260	13	227 - 230
11	237	243	6	228 - 242
12	227	252	24	207 - 219
13	253	269	16	234 - 242
14	247	274	17	209 - 223
15	248	267	19	224 - 229 ^{date}
16	242	249	7	225 - 233
17	239	270	36	229 - 232
18	258	262	4	226 - 232
19	250	260	10	223 - 235
20	248	256	8	217 - 225
21	241	259	18	207 - 235 ^{date}
22	248	269	21	214 - 229
23	226	280	39	214 - 229
24	246	264	18	220 - 221
25	247	270	23	217 - 229
26	238	263	25	224 - 235 ^{date}

1918-E: Make two rounds regular
blanks like 1919-E except
pressure about 800 lbs.
Calipers for wedge

See 1919-E

3 blanks wedge saw 25-
1 record " " 25-

#	1919-E	25	Special	Blanks	3/4/15	
	Exp.	High	Diff.		Reckd.	
1	244	-	279	34	232 - 241. ^{Reckd.}	9
2	242	-	270	8	234 - 240	6
3	245	-	258	10	222 - 229	7
4	244	-	261	16	222 - 230	8
5	245	-	262	12	227 - 231. ^{Reckd.}	4
6	247	-	266	19	223 - 242	19
7	244	-	263	18	222 - 237	15
8	260	-	272	12	233 - 240	7
9	253	-	266	13	224 - 227	3
10	249	-	247	8	223 - 232	9
11	243	-	247	14	218 - 228. ^{Reckd.}	10
12	262	-	276	14	232 - 238	6
13	264	-	268	4	231 - 233	2
14	262	-	263	1	224 - 232. ^{Reckd.}	8
15	239	-	246	17	213 - 224. ^{Reckd.}	11
16	241	-	267	16	221 - 224	3
17	244	-	269	15	233 - 239	6
18	241	-	261	20	219 - 225	9
19	237	-	247	20	214 - 223	8
20	262	-	273	11	236 - 250	14
21	239	-	246	17	213 - 228	18
22	244	-	268	23	219 - 234	15
23	243	-	269	26	216 - 240	24
24	254	-	272	18	234 - 236	2
25	248	-	249	11	222 - 231. ^{Reckd.}	13
26	261	-	281	20	236 - 244	9

1919-E Make two rounds regular
blanks like 1917-E except
have pressure about 875 lbs
allipin foi cardon

Pressure changed to 875 lbs on
regular blanks. March 18-18 at 5:20
PM.

2 blanks ridge over 25-
no records over 25-
and all were printed.

#1920-E 26 special blanks 3/16/28

	Low	High	Diff		Diff
1	269	271	2	217 - 231	14
2	256	268	12	224 - 235	11
3	250	252	27	222 - 236	14
4	238	244	28	230 - 235	5
5	242	261	9	213 - 237	24
6	229	260	31	213 - 227	14
7	248	271	18	232 - 235	3
8	248	271	18	229 - 235	6
9	238	271	33	242 - 248	6
10	247	255	8	230 - 236	6
11	249	275	46	223 - 241	18
12	240	271	31	216 - 236	20
13	245	262	7	Grade 18k	
14	244	276	31	220 - 229	9
15	261	284	23	237 - 246	9
16	253	266	13	210 - 243	33
17	266	279	13	237 - 245	8
18	239	252	13	225 - 232	7
19	266	298	27	227 - 246	19
20	251	274	23	229 - 239	10
21	230	258	23	227 - 243	16
22	257	261	5	232 - 248	16
23	251	253	2	223 - 242	19
24	250	265	15	227 - 233	6
25	250	267	17	217 - 221	4
26	253	289	36	248 - 252	4

Caliper measures by Howland

1920-E ~~same~~ two rounds regular
blanks like 1917-E except
have pressure 945 lbs. (about)
Caliper for wedge -

9 blanks wedge over 25-
one record wedge over 25-

See 1919

#1921-E 26 Special Blanks 3/16/57				268	
	Low	High	diff	crack label	
1	227	264	37	227-237 <i>disc</i>	10
2	242	241	9	227-247	20
3	244	272	28	219-231	12
4	242	260	18	229-236	7
5	240	249	9	220-230	10
6	240	283	43	222-229 <i>disc</i>	7
7	241	260	19	219-230	16
8	230	270	40	224-238	13
9	241	262	21	231-243	12
10	242	278	36	217-228 <i>disc</i>	11
11	263	264	1	217-226	9
12	242	249	7	231-234	3
13	244	252	8	236-244 <i>disc</i>	8
14	244	279	35	227-232	5
15	251	274	23	218-229 <i>disc</i>	11
16	239	275	36	215-238 <i>disc</i>	23
17	232	241	9	230-234	4
18	244	272	28	222-234	12
19	248	263	15	221-239	18
20	243	267	24	235-238 <i>disc</i>	3
21	247	277	30	230-244	15
22	235	247	12	228-230	2
23	250	256	6	223-236	13
24	253	279	26	233-249	16
25	237	250	13	212-223	11
26	243	267	24	222-234	12
Sum 181				Sum 268	

Compare with 1922-E
 1921-E Blanks made on coil presses
 Presses No 11 and No 12

March 16-18

#1922-E 26 Special Blanks 3/6/7

	Low	High	diff		
1	247	- 238	36	216 - 246	30
2	244	- 249	14	223 - 230	7
3	246	- 246	30	220 - 230	10
4	241	- 272	31	220 - 233	13
5	243	- 281	38	222 - 230	8
6	249	- 269	20	219 - 242 <i>due</i>	22
7	240	- 265	25	<i>Bluto Blk</i>	
8	241	- 275	34	229 - 229	0
9	248	- 262	14	224 - 240	26
10	240	- 254	14	219 - 232	13
11	246	- 262	16	214 - 231	17
12	235	- 249	14	212 - 234	22
13	230	- 263	33	223 - 234	11
14	242	- 261	19	213 - 232	19
15	244	- 279	35	221 - 236 <i>due</i>	15
16	241	- 269	28	220 - 236	16
17	244	- 255	11	222 - 231	9
18	254	- 274	20	210 - 221 <i>due</i>	6
19	252	- 269	17	224 - 230 <i>due</i>	16
20	247	- 279	22	206 - 233 <i>due</i>	27
21	241	- 266	15	220 - 232 <i>due</i>	7
22	242	- 270	28	219 - 230	11
23	244	- 280	35	222 - 247	25
24	247	- 271	14	227 - 236	9
25	230	- 263	33	219 - 239	20
26	228	- 263	35	224 - 247 <i>due</i>	23
	24	24			142

Compare with 1921-E
 1922-E Blanks made on swing joint press
 Press nos 3 & 4

No.	Thick sector		Thin sector		Thick Thin Percent to WT.	
	Measure	Weight	Measure	Weight		
1	240	33.7	234	304	24	10.9
2	269	32.6	251	33.2	7	1.9
3	274	32.2	229	31.0	20	3.5
4	267	33.4	257	31.8	4	5
5	263	32.2	226	31.9	164	-5.6
6	297	35.4	206	27.3	44	30
7	277	31.8	223	28.9	24	10
8	262	31.8	231	30.6	13	4
9	279	34.8	233	31.6	20	9
10	287	34.3	241	31.3	19	9.6

Measure
made by
Christensen
March 18-17

This indicates that most of the original trouble is in loading and not eliminated by the packing press. The a negative result is shown in two cases - indicating trouble in large press.

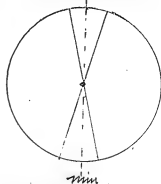
— Theory ???

Loading is not uniform. Small press does not come up parallel. Must be guided up and forced parallel by a longer ram.

Slight inequality of loading sets the angle of the press when firm contact is first made. When blank is compressed this angle means a greater percentage of whole thickness than original thickness. and increases discrepancy. This action is further increased in the large press.

Important crucial experiment.

1923-E Experiment on wedge blanks. Take 10 blanks calliper thick and thin sides, mark max. and min point. Cut out exactly equal sectors on each side and weigh each sector.



this will show if trouble is in loading or in pressing.

Sectors cut out by marking with the sector and saw out by hand saw

→ because to straighten up the surface would have to slide.

Press sent to laboratory March 18
asked Ball to take charge of remodeling it March 20.
Press finished April 6-18

3-20-18

80 - 1918 - E Blanks furnished

2 coats 5 Min Visc 1841-E formula

15 blanks discarded

65 printed.

19 pull out on label } due to other causes

4 parallel cracks } probably -

1 wedge

11 poor print

7 smudges.

23 OK - only 35.3% OK,

Chittenden made temperature test 150° to
-20° Fahr, all six rounds OK,

1924-E - same as 1898-E except
leave out sandarac entirely,

3/15/18

1925-E

24 blanks varnished all over
first coat. second coat the
label not varnished,

24 printed,
1 pull out on label.

same as above except that center is
varnished on 2^d coat instead of first.

24 printed,
1 white spot
1 cracked blank -

This is not so good as first way
because truck. is fouled by the dry
center of blank for 2^d coat varnish.

1926-E

Sandarac -

beginning Monday March 18 all Sandarac used in the varnish is dissolved, decanted and filtered separately to get rid of sand, beginning Tuesday Mar 19 all Para is dissolved first to get out small traces of iron and dirt. —

Sandarac 5559 grammes contained
over 50 grammes of white sand,
or 1% —

Spatula test developed grit in varnish. Christman extracted all resin from small sample - leaving a trace of silica with the glass block, Hoffman suggested the sandarac and Christman took a sample and found the sand, Christman also examined the Para and found particles of iron.

1927-E Take an O.K. Copper mould -
polish margin and feed lined on
polishing machine, with brush and
rouge. Polish until smooth, any
much more than it would be
safe to polish the muscle.
Suggested by M.C. Muller March 19-18
This makes the start more quiet.

40 blanks varnished
 6 discarded for blisters (bubbles)
 34 printed,
 { 1 pull out on label
 85% { 2 parallel scratches,
 0.19 { 1 white spot.
 { 1 snap.

1928-E Special Variance to see if
 stickyness due to low viscosity of
 phenol resin can be reduced
 by adding more 6/4

100 grammes resin } Run no 52
 7.7 phenol } First phenol 14.3
 1 para } Viscosity 43
 1 sand
 7.9 6/4
 140 Alcohol.
 5 Gas black
 3olino.

- 2 coats 5 min -
 40 blanks varnished
 2 blisters
 1 chip & edge -
 37 printed
 1 vinner pull out
 4 pull out on label
 2 parallel cracks
 2 cracked blanks
 2 anaps

 26 0/1 72%

1929-E special varnish

Same as 1928-E
 except use 8% of 6/4

no Bubbles in baking

1930-E Baking schedule etc.

Varnish first coat air dry 30 min

Varnish 2nd coat air dry 30 min

Put in oven at 100° F

after one hour 115°

after two hours 130°

then continue on 1908 schedule,

- to get rid of bubbles -

Principle is not to heat the varnish
in baking process so that it becomes fluid
at any time.

The 1933 also.

1931-E Printing press schedule

To prevent cracking slabs -

Contact - until thermometer
reaches 200° mark - then 3 minutes
more, Then take two minutes
more to come up to full pressure
very slowly to prevent breaking
bins, then hold full pressure
on steam for 7 minutes more,
made - Low prints -

Held only two minutes after 200° mark is
reached then take 2 minutes to come up,
This works better,

1932-E

Principle suggested in 1930-E
to present ^{possibly} might reduce or eliminate
most of the run outs.

Examine blanks carefully to see
if top edge in sorting is different
from bottom edge, no difference

1933-E Baking schedule same
as 1908 except that temperature
is brought up to 130° in only one
hour.

Received 111

OK, 104

Dive 7

chipt edge ~

high 3

ledge

93.6% OK, on blank

7

bar 2.00% & min time 1841

93 printed.

1 curved edge

5 per OK

2 rad OK

5 wedge

* 43 high -

1 poor print

1934-E same as 1866-E except
use 400 pounds pressure on
blank press instead of 450 lbs (1927-E)

Decd 111
 OK 93
 discd 18 — drift edge 3
 cracked 11
 ledge 4
 83.7% OK 18

90 printed —
 1 runner yellout
 16 parallel ck
 2 nad ck
 1 white spot
 2 thick } 73% OK

1935-E Same as 1866-E except incl
 500 lbs pressure on slants press
 Instead of 450 lbs (1827-E)

1936-E See 1824-E, 1827-E, and 1918-E

30 lbs Union wood,

30 lbs Dupont or Homfriche

2 lbs Gess black,

50 lbs alcohol,

12 lbs resin less .06 of a pound

for every .1 of 1% of Rosin in the
wood flour, about 3%. This is
to make the rosin content of the powder

constant,

Union wood	2.7% ^{Resin}	.06
Example Dupont wood	4.1	.24
average	5.4	ave 11.76 lbs

1937-E (A.H.I. schedule) Hoggman - to make blank after,
 3 - in constant - 125 lbs.
 2 in in Hydraulic pressure - 450 lbs. (1947)
 otherwise regular - (1915, 1919-E)
 tried to make blank a little lighter -

81 printed
 1 curved edge
 14 pencil not on label
 15 parallel ch
 1 snap -
 61 7/8 O.K.

117 printed -
 940 O.K.
 1 running o.
 1 curved edge
 159 P.C. on label
 * 164 parallel crack
 9 radial crack
 2 wedge
 4 thick
 21 poor print
 1 stain
 15 snap,
 3 rough spot
 71 2 9/16 O.K.

1938-E Make 100 blanks 1261 scheduled
 no constant pressure after ram is
 full - High pressure 450 lbs on for 5 min.

104 blanks made -

83 blanked

1 discard

82 printed

1 pull out on label

2 parallel washers

4 poor perforations

} 94% OK on printing

4/2/18

89/2 printed

11 blank 90.

51 R.O. on label

82 parallel CH

10 radial CH

3 wedges

1 broken washer

15 porous plate

11 thick

3 stain

14 swags

1 oil on spot

13 Rough spot

75 80% OK

4/3/18

528 printed

12 screw fast. nuts

3 small washers

36 small nuts on screws

12 parallel washers

18 small washers

1 washer

66 thick

73 poor printing

3 dents

2 stain

3 low spots

24 swags

8 clean spots

Printed
 1938 scheduled
 See 1938-E

3856 painted 4/9/5

18 brown full dots.
10 crinkled edges.
81 pull out on label.
16% parallel cracks.
80 radial cracks.
21 wedges
9 stain
97 poor prints
382 thick
6 crinkled center
6 low spots
48 swags
1 ribbon spot
105 rough spots
1006
73 9% OK.

1939-E Dry enough wood floor to make
up several drums 1936-E

largest had 61 7/10 moisture -
broken 8.2 "

(this drying done during strike of
blaster makers. — 7.25.27)

3/30/18

208 painted.
154 OK.

1 brown pull-out
4 label " "
8 parallel ck
1 radial ck
1 smooth
7 poor prints
14 thick
1 low spots
17 swags -
54 scrap

77% OK.

4/1/15

1876 painted

3 brown pull-outs
16 crinkled edges
45 label pull-outs
59 parallel ck
20 radial ck
17 wedges
30 poor prints
2 smooth
2 stain
184 thick
72 swags
2 rough spots
843 76% OK

1940-E Repeat 1894-E using wood
glow dried. 1939-E.

Packing pressure will be 500 lbs -
works in with technique of 1939-E as

1894 testings were worked in with 1894-E
Would regular -

1707 Printed

8 boxes pulled out

5 crumpled edges

43 pull outs on label

29 parallel cracks -

10 radial cracks

2 wedges

* 201 Thick 78% OK, with thick.

20 poor print. 90% without the thick

1 thin blunts being thick along

3 stain redness cracks -

1 wood in blank

2 loss spots

30 snags

1 silver spot

18 rough spots

374 copy.

1941-E. All weights on accumulator for packing
press - 1000 lbs pressure
 $\frac{1}{8}$ high mould ring -
ring strike off.
100 blanks 1936 provided

1942-E All weights on accumulator for
pushing press, -1000 lbs pressure
 $\frac{1}{16}$ " thick disc inside, moulds to make
the equivalent of $\frac{1}{16}$ " mould ring,
ring strike off
100 blanks 1936 powder.

71 blanks printed.
" p.s. on label.
3 parallel cracks.
1 thin.
2 thick.
2 poor print.
2 unusable.

1943-E Same as 1942 except one regular
ring - ring stripe off - all blanks
come very thick

4/6/5

462 printed or scheduled

- 1 brown pull out
- 7 crumpled edges
- 12 pull out be held
- 11 parallel cracks
- 1 parallel crack
- 4 edges
- x 23 thick
- x 13 poor prints
- x 3 slow spots
- x 11 cracks
- x 15 rough spots.

71.1% 8 1/2%

1944-E. Same as 1940-E except reduce pressure
on packing press from 800 lbs to 750 lbs to reduce
percentage of thick hands.

4/6/8

503 printed ^{See 1953-5}
2-5-5 schedule

3 boxes just note.
11 pull out on label.
18 parallel cracks.
3 radial cracks
1 stain

* 48 thick
9 poor prints
11 cracks
1 rough spot
79.5 % OK.

1945-E same as 1944 except pins on 1261 schedule
like 1938-E

1946-E Amx as 1940-E except in ~~the~~
1936-E porch - made with wood floor
just as it comes.
Built on site of Miller, Okla. 1900.
— ECL 1948 —

4/6/58 SA-1953
475 printed 2-2-58 schedule.

3 boxes pulled out.

1 scratched edge.

20 pull out on label.

24 parallel scratches.

5 radial scratches.

5 scratches.

6 thick.

8 poor prints.

2 scratches.

15 rough spots.

79.5% OK.

1947-E Same as 1946-E except press on
12 of schedule like 1938-E
750 lb pressure in packing press.

4/6/10

472 printed 228 schedule

7 lines pulled out
24 pull but on label
10 parallel cracks
11 parallel cracks
2 down spots
6 swags
17 rough spots

82.4% OK.

Throptest

1	-	8
2	-	4
3	-	16
4	-	16
5	-	3
6	-	2
		<hr/> 49

1948-E Same as 1946-E except presence of 7500s
in packing process like 1944-E.

Same as 1449-E
Graft viscosity 3rd 30 sec.

40 Printed. on 1952-E Blank.

1 Pull out on label } 77.5% OH.
5 parallel crack }
2 poor print }
1 wrap.

1449-E (Aspirin Resin).

39 printed

2 pull out on label
4 parallel cracks
19 poor prints
4 thick
25.5% OH.
Fumble with stem.

1949-E Varnish - Clear varnish with only enough
gasolene to color it.
100 g. Phenol resin.

Phenol to make free phenol 22%.

1 g. para.

1 g. sandarac.

7.08 6/4

(140)? alcohol -

1.5 Gas Vack.

dilute to 5 min viscosity.

4/4/58
33 printed

1 better pull out

1 parallel etc.

10 poor prints -

Shower layer of varnish etc -

Prints all look dull like 1450 and 1451.

same as 1950-E

except 328 ⁴⁵⁵ viscosity
41 printed 1952 3 blando.
4 parallel ch }
1 thick } 82.9% OK.
2 snags }

1950-E (7 special resin)

38 printed
2 pull out on label
4 parallel cracks
6 poor prints
2 thick.
65.1% OK.

1950-E varnish,

100 g. Phenol resin
phenol to bring free phenol to 22%

1 g. para
1 g. Nandarae
7.8 g. 6/4
(100 g) 10. Alcohol
1.5 g gas black.
5. g. Shino,
dilute to 5 min viscosity.

37 printed
1 label pull out } 4/4/18
2 parallel ch } 75.6% on printing
2 less spots } shows good layer of
3 poor prints } varnish on top - all
1 snap - } prints look dull -

same as 1951-E, 4/4/5
 except 3rd 32 sec. processing,
 40 printed 1952-E blanks,
 4 poor prints. 90% OK.

1951-E-A ^{4/4/5} special film -
 5 min. processing.
 34 printed.
 1 rounded edge
 1 pulled out
 1 parallel etc.
 24 poor prints,
 1 thick
 1 snap.

Stain was variable
 and gave a lot of trouble
 about the time that
 this was printed.

1951-E Barnicle -

Same as 1949-E except leave
 out the Barnicle.

Make one quart -

38 printed 4/4/5

2 better pull out

1 parallel etc.

2 thick

9 poor prints

1 snap.

60.5% OK

Seemed to work into the blanks in
 printing showed very thin layer -
 all prints look dull like 1949-1950.

1952-E-1261-E 1841-E too close 5 mil. disc.

100 printed

76 OK. 76%

10 pull out on label

4 parallel etc

4 thick

5 poor prints.

1 snap.

1952-E-1962-E disc 4th 45% OK, see 1962-E

1952-E Same as 1936-E except pressure
on packing Jones reduced to 750 lbs
from 800 lbs to stop blanks coming
too thick —

(Schedule
2-2-8)

(Schedule
1-2-9)

A Side

B Side

554

418

385" $\pm 1/2$ "

298705" $\pm 1/2$

169

120

1

1

7

35

13

73

23

1

11

4

3

8

33

2

3

29

12

9

1

19

Records printed

OK,

scraper

binen pull out

crushed edges

Pull out on label

Parallel cracks

Radial cracks

wedge

Thick -

Poor prints

low upset

anode

silver spot

rough spots -

1953-E Experiment to reduce ^{low} ~~press~~ prints,
printing schedule -

see 1931-E

- ① run one end of printing room on schedule holding low pressure one minute after 200° mark is reached then take two minutes to bring up the high pressure, "1-2-9 schedule"
- ② run other end holding low pressure for 2 minutes after 200° mark is reached and then take 2 minutes more to bring up the full pressure - "2-2-8 schedule"

Both have steam on for 12 min. after 200° mark is reached,

1954-E

Make one quart of 1949-E varnish
using Phenol resin that has been ground as
fine as possible. This is to obtain the
same effect as 1901-E. but make it
200 mesh fineness if possible.

Lot A is made from dust brought on the linen
filter on the mill over receiver box, vicinity 435

Lot B is made from resin passed thru
(80-mesh?) screen in stone body by Christman

Lot C - vicinity 325

Lot A.

36 prints 1934-1952-E Black.

7 Parallel ok.

17 Poor prints. 30% OK

1 thick, no printing.

11 OK. prints

Lot B 1 poor print

36 prints 1934-1952-E Black

4 parallel ok.

22 poor prints.

1 scrap

9 OK. prints. 25% OK

1955-E 5 min Wisc & Coatsan 1952 Blacks.
 36 printed 2-2-8 schedule -
 29 OK. 80[±] %
 7 poor prints.
~~10 poor prints.~~

1955-E Varnish Experiment.

Take one quart of 1841-E Varnish before any
 gas black is put in just as it comes from the
 filter press - then add a very small quantity
 of the regular 1841-E just as it comes from
 the paint mill - with paint mill adjusted
 very tight for very slow feed - 1/100" just
 enough to make the varnish black and
 note how much is used. (63 grams used)

4/9/58 Viscosity 6-3.5
 Very glossy blacks. - 1954-1955-E blacks.

40 blacks ~~varnished~~
 36 printed. } 2-2-8 schedule
 10 parallel ch. } 52.7% OK on printing.
 1 poor prints. } 19 OK. Abs.
 1 crimp.

4/10/58 1952-E Blacks

3 blacks	1 OK	2 poor prints	2-2-4 schedule.
3 "		3 poor prints	2-2-8 schedule 140 lbs. ^{pressure}
3 "		3 " "	5-2-5 schedule
3 "	1 OK	2 " "	2-2-8 schedule reg. coll. ^{test}
3 "		3 " "	3-9 "
3 "	1 OK	2 " "	12 min. old reg. schedule.
3 "		3 " "	{ 2 min. heat at cold test
			{ 3 min. " 200 lbs
6 "	3 OK	3 " "	2-2-8 schedule

2-2-8 makes test that the very shiny
 varnish seems to trap air and make fine and
 poor prints of circular character.

1956-E varnish. Take one closed mixer
of 1841-E varnish and put in with the olins
about one pint cup full of gas black. Run
for a full hour with the olins and then
put through the filter press. If it
is black send it up stairs as it
is. Take viscosity, but do not alter it
unless it should be above 5000.

When this came from the filter it
left practically all of the insoluble in
little balls. The dark black could have
to be put thru paint mill to make, may be
made like 1955-E

4.56 viscosity
 12 printed 1+10 schedule-1 OK 2 parallel ok 9 poor prints
 6 " 2-2-8 4 OK 1 label ok 1 poor print.
 2d lot 5 min viscosity
 12 " 2-2-8 12 poor prints.
 12 " 2-2-8 12 " "
 12 " 2-2-8 12 " "
 54 printed only - 5 OK. } Bottom

40 banded 5 min viscosity
 36 printed 2-2-8 schedule-
 17 OK 47.2%
 1 full set on label
 2 parallel ok.
 2 radial ok.
 14 poor prints.

1757-E one quart of 1841-E varnish just
 as it leaves filter press before adding
 lump black, viscosity 4.56
 very glossy blank -

188-E

Subnastic printing vehicle - contact pressure both
stam on - Thermometer at 240° - set clock
after 3 min. - turn out minute wire to bring up
high pressure hydraulic to 125 lbs.

Hold high pressure hydraulic with steam for
6 minutes more than set.

this changed to 5 min.

1859-E blank inspection.

4-9-10-85%OK. 442 received 392 OK 12 dupl edge 10' 20 10 18 70
 4-10-11-70%OK. 700 " 550 OK 40 " " (40) 30 10 20 150

1859 E-1261-E

4-9-18-86%OK. 239 " 205 16 5 3 3 7 34

1959-E/4/1/18

370 printed.

281 OK.

289 discarded.

2 boxes pull out.

22 pull out on label.

11 parallel track.

10 radial track.

38 thick.

6 poor print.

4 wrap.

75.9% OK.

1959-1261-E 4/1/18

197 printed

162 OK.

25 discarded

9 Ballast on label

5 parallel track

2 radial track

2 thick

7 poor print

86.6% OK.

Inspected

1959-E

1-75

2-20

3-13

4-3

5-1

6-3

57

1959-E-1261-E

2-20

3-13

4-3

5-1

6-3

57

59

1959-E Blander

Same as 1824-E except as follows:

Pressure on large press 450 lb like 1827-E

Backing press pressure 750 lb

Mistone 25 1/2 lb Union wood

24 1/2 lb Dupont wood

40 lb chubb

11 lb I Room sometimes from room

in the wood like 1936-E

50 lb Alcohol

2 lb gas turbine

In screening 10' 10' 10' 10' 10' 10' 10' 10' 10' 10'

Labels from 1827-E

Labels 200 blanks on 1261 scheduled - these same

Blank blanks only 1/2 inch from 10' 10' 10' 10' 10' 10' 10' 10' 10' 10'

removed

599 needs edged 96.2% OK on edging.

END

1960-E Blank Inspection.
 Washed OK. Chpt edge opt. water. Backed wedge flange Total
 4-9-18-86%OK 449 387 32 5 15 10 62
 4-10-18-75%OK 748 563 120 15 20 20 10 185

1960-E-1261-E

4-9-18-80%OK 204 166 12 8 10 4 5 39

1960-E 4/1/18

1960-E-1261-E 4/1/18

351 printed
 291 OK
 60 disson
 2 missing pull out
 1 crushed edge
 17 pull out on label
 2 parallel cracks
 1 radial crack
 6 wedge
 17 thick
 5 poor print
 8 snags
 1 rough opt.
 82% OK.

153 printed
 112 OK
 41 snags
 1 parallel crack
 5 wedge
 * 24 thick
 8 poor prints.
 2 stains
 3 snags
 73% OK.
 89% OK. if thick are not counted

2057 printed 2-2-8 schedule (see 1955-E)

2181 OK. 76.3%

10 heavy pull out
 13 crushed edge
 17 pull out on label
 512 parallel ck
 70 radial ck
 7 wedge
 25 thick
 73 poor prints
 1 scratch
 4 low wet
 34 snags.

397 printed 7/1/18

357 OK. 89.9%

7 pull out on label
 16 parallel ck
 8 radial ck
 2 poor prints.
 7 snags.

1960-E. came as 1959-E except
 over 1% life resin - Moin corrected
 for resin in the month like 1958-E
 Follow up 1959-E in screening to get
 some reformed tubing from 1959-E
 to start north.

1960-E-1261-E 4/1/18

202 Printed 2-2-8 schedule see 1953

183 OK. 90.3%.

2 pull out on label.
 11 parallel ck.
 2 radial ck.
 1 poor print.
 3 snags.

385

records edging give 96.8% OK. OK edging 4/1/18

1961-E Baking schedule for biscuits
one lot of 1955-E and 1957-E paired
like 1933-E except 200' on 200' for
one hour instead of $\frac{1}{2}$ hour
See note on 18076-E

1962-E Barnish Experiment - note equivalent.

~~actual composition~~

Phenol Resin 70.58
11.4% phenol.
Viscosity 27 sec.
not used equivalent
3.5 times phenol.

380 g. phenol resin.

37 g. phenol

38 g. para

3.8 g. Sand.

27.6 g. 8/10

35.0 g. black

100 g. Phenol Resin, + same number
of g. of Phenol Resin as percentage
of the phenol in the resin in the
first place - If the phenol is 15% the 15g.
phenol to bring up percentage
to 12% — this gives 100g resin
22g phenol

1.1 g. para

1.1 g. Sandarac.

7.9 g. 6/4

130 g. denatured alcohol

10 g. gas black -

Bring to 5 min viscosity,

40 printed

10 printed 4/15/18

18 OK. 45%

9 OK. 90%

2 parallel cracks

1 reverse pull out.

1 radial crack

2 thick

* 17 poor prints

1963-E varnish exp.

Same as 1955-E except
use 120 grammes of the 1941-E varnish
with gas blacks to see if we get fewer poor
prints.

4/10/18 40 printed 1952-E blanks 2 coat 5 min. varn.
23 OK. 57 $\frac{1}{2}$ %

1 parallel OK

* 15 poor prints.

1 wrap

1964-E Varnish Experiment - Ch. Christmann -

100 gms phenol resin - (Pur 1006)

125 gms Givart Alcohol -

7.9 g 6/4

1.9 para

1.5 nitrocellulose

a yellow dye which turns
black on heating

8 Prints made - one pull-out -
all are black but a little brownish
compared to lamp black -

On acc of the phenol resin
not being extracted for free phenol
we can not tell much about it,

||| On account of free phenol being left
out apparently there are no poor prints
all clear visible, measurable has four prints

1965-E varnish Experiment - Christensen,
228 gms of regular 1841 varnish before
thins is added,
2 grams *notroshinethylamine*.

See 1964-E

57 printed 2-28 schedule.
45 OK. 78.9 % OK.
2 pull out on label
9 parallel OK
1 snap.

1966-E - Same as 1962-E
except use 15g. of ggs black
instead of 10g. J

4 min vicinity

60 printed 2-2-8 schedule -

52 OK, 86% %

1 pull out on label

1 parallel ck.

1 radial ck.

4 thick

1 snap.

5 min 21 sec vicinity

80 blank verniers.

44 printed

1 rounded edge

2 pull out on label

9 parallel ck

3 thick

6 poor print

22 OK, 50%

1967-E

Take one more vernier

1941-E and add 20 poor verniers

194 printed

140 OK, 72%

1 never pull out

34 parallel ck

1 radial ck

12 poor print

6 thick

60 blanks varnished 2 coats 5 min 1741-E
 60 printed 2-2-8 schedule (see 1953-E)
 38 OK, 63%
 12 parallel ck.
 3 radial ck.
 2 poor print.
 1 thick.
 1 thin.

1968-E Varnish - Experiment - for use as varnish

350 gms phenol resin, Rembol 141F1,

27 $\frac{1}{2}$ gms Phenol

3 $\frac{1}{2}$ gms Para

See 1941-E

3 $\frac{1}{2}$ gms Garamine

for manipulation

27 $\frac{7}{10}$ gms $\frac{6}{14}$

500 gms densit Alcock

16 gms Litho

50 gms gas black,

1969-5
 - Run 7062 - See 1962-5 same insect - 25 cc 80% alcohol
 to run insect.
 small brown 114.1 g. 374 g.
 Phenol $\frac{2.9}{1.25}$ g. 27.6 g. phenol.
 Ana. 1.8 g. ~~replaced phenol~~ 3.8 g.
 Sandmac 1.1 g. 3.8 g.
 1/4 7.9 g. 3.5 g.
 Backshot 20 70. g.
 Alcohol -

Bring to 5 min. incubate.

1970-E

92.1 g. phenol resin Tm 120 - 140 g. phenol.

7.7 g. phenol.

100 g. phenol resin containing 10% free phenol.

1 g. para.

1 g. Sanderson.

7.8 g. 6/4

20. g. gas each. Absorbed to 10 g.

For one quart 3 1/2 times above.

32.2 g. Phenol resin.

27.1 g. phenol.

3.5 g. para.

3.5 g. Sanderson.

27.3 g. 6/4

1971-E

Barium & blancher with 2 coats of
irregular 5 min. also, 10 min. to 1 hr. and
print regular, 1 hr. dry & then between 400
1933-E Lake - 220 min. (with 1933-E)
5 0K. no 100 min. 1 hr. 2 hr.

1972-E Barnish 136 blinks with one
coat 3 min slow, 1/2 minute dry
1/2 hour then one coat 3 min slow then
dry 1/2 hr then 1/2 hr, another
coat of 5 min slow, 1/2 hr 1933-E

1973-E same as 1959-E except
use 13 lbs resin - corrected for
resin in wood.

Make 2 drums.

4/23/8

434 printed

772 G/K, 82 6/10

1 veneer pullout

2 cracked edge

21 pull out on label

71 parallel crack

15 radial etc

1 white spot

4 poor print,

35 thick

3 stain,

7 snags

2 rough spot

4/23/8

1297 found-

1040 G/K, 80 6/10

3 veneer pullout

2 cracked edge

24 pull out on label

125 parallel crack

47 radial crack

17 poor print,

19 thick

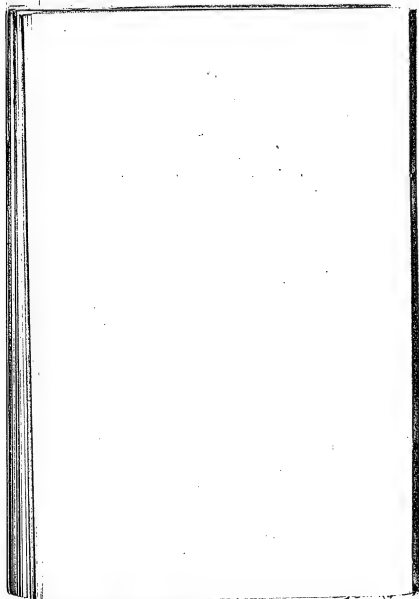
4 cracked center

13 snags

2 white spots

1 rough spot.

1974E Same as 1957-E
except ...
30 lbs ...
30 lbs ...
12 lbs I ...
for ...



4/25/18
3128 printed
11 inner p.o.
5 crushed edge
63 p.o. on label
313 parallel LK
81 radial LK
3 wedge record
1 scratch ? (Tennant)
18 poor print
56 thick
1 dent
3 crushed center
3 scratches
56 wraps
5 silver spots
6 stain

**Notebook Series -- Notebooks by Edison and Other Experimenters
Group 2: Disc Plating Experiments (1920-1921)**

This group of eleven notebooks was used during the period June 1920-March 1921. All of the entries in the first book and in N-20-08-18.2 are by Edison. The other books generally begin with entries by Edison and continue with increasing numbers of entries by Walter N. Archer, John McMullen, Frederick P. Ott, and other experimenters. The later books include only occasional Edison notes and comments, and the final book (not selected) contains no Edison entries. Other researchers whose names appear in the books include Irving Adelsohn, F. Detlef, Jr., Paul B. Kasakove, Sherwood T. (Sam) Moore, and W. J. Taylor.

The books describe a variety of experiments to improve the disc record manufacturing process, particularly the plating baths, and to solve problems with current electroplating. There are also experiments with various ingredients, equipment, and procedures.

N-Number

Labels and Inscriptions on Front Cover

Selected Books

20-06-04	"Disc Record"; "Sub Plating No 1"
20-06-07.1	"Mc Report 6"
20-06-07.2	"Baths Disc"; "D"
20-06-08.1	"5"; "Nickel Fast Plating Process Experiments"
20-06-08.2	"Baths"
20-06-09	"2"; "Disc Fast Plating #1 to #50 Exper Copper"
20-06-12.1	"June 12-20-To July 31-20-"; "No 8"
20-06-12.2	"7"; "Disc"
20-07-10	"July 10, 20-To Aug 19-20"; "Disc Record"; "Nickel Bath Exper."
20-08-18.2	"T-A-E No 4 Plating Disc"

Books Not Selected

20-08-20.2	"Varnishing Moldes with Rubber Cement from Combination Rubber Co. F.P.O."
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Notebook Series -- Notebooks by Edison and Other Experimenters
Disc Plating Experiments
Notebook, N-20-06-04

This notebook was used by Edison during June and July 1920. The entries pertain to the plating processes involved in the manufacture of disc records. Included are notes and drawings on a variety of electroplating experiments, among them trials with different plating solutions, plating equipment, current ratings, and methods. The experiments include attempts to design an anode for the copper plating molds and a mold holder. Additional experiments relate to the ingredients of the copper solution focused on the specific gravity and temperature. Also included are reports and calculations regarding record mold electroplating production schedules. In addition, there are detailed descriptions of production methods and work in the Graphiting, Plating, and Anode departments, along with a description of the procedure for receiving, storing, graphiting, and copper plating wax disc record masters. There are occasional notes about matters to be further investigated and suggestions about improvements or solutions to current problems. Beginning on page 124 is a list of fifty-two "Things to be Inspected" during the course of production. The last page contains a list of "repair work" to be done. The notes indicate that Edison was assisted by James M. Burns, F. Dellef, Jr., John McMullen, Sherwood T. (Sam) Moore, Frederick P. Ott, and an experimenter named Stout (possibly Frank M. Stout). The front cover is labeled "Disc Record" and "Sub Plating No 1." The book contains 134 numbered pages, some of which are blank, followed by 6 unnumbered pages of notes. Approximately 100 pages have been used.

Expts. June 4 1920 /

New Cast Copper anode put
in the saturated CuSO_4 sol.

8.2 Volts at bus bar

Could only get 2 amperes
on air Methyl - Res Carbon
removed from circuit —

8.2 Volt across bath
terminals - held a piece of
old $\frac{1}{2}$ worn Cu anode
mostly touched new anode it
jumped to 20 amperes

showing new anode coated
with red cuprous oxide —

Took out anodes - filed
surface of new anode
put back — 8.2 V +

15 amp - kept around 16 to
18 amp all night - 12 hours

Solution used 20 gals water
saturated with CuSO_4 at
80° Fahr - filtered off ^{anode} residue
2 liters strong sulphuric acid

2

3
 found in, adding Acid it
 salted out some crystals -
 Added after solution Cooled
 to ~~80~~ temp 80°. 1 gal
 water still crystals added
 another gal - found in
 Morning crystals on rotating
 disc added another gal.
 All together 3 gals.
 still some crystals —

From this think we should
 determine formula of a
 salt would sol at 55°
 which is as low as plating
 Rooms ever get.

I saved a Cu discard in
 4 parts



Made 1 section Anode gives
 18½ amp - I am pulling it

4



test -

A test with 0.40 hole
 4 ft clear across
 music pressure

3" of Mercury
 = 6 lb pressure,

5

in for $\frac{1}{2}$ hour to see if Constant,

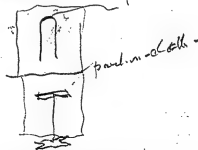
a preliminary test holding
 $\frac{1}{4}$ section in anode Defect
 by hand

When $\frac{3}{4}$ " from partition	amp
" 1 "	20
" 2 "	19 $\frac{1}{2}$
" 3 "	17 $\frac{1}{2}$
" 4 "	15 $\frac{1}{2}$
" "	14 $\frac{1}{2}$

When farthest away &
 $\frac{1}{4}$ from back 12

This is fine with such a
 small area anode

now bend a $\frac{1}{4}$ section thin



6

7

With 18 amperes + $\frac{1}{4}$ section
of Disc as anode L
Removing cloth partition
made no change still
18 amp showing clean
cloth no change of Resistance

The $\frac{1}{4}$ section I been
using was greasy
+ gave 18 amp but
when cleaned of grease
by Key washed + put back
gives 21 amperes -
 $1\frac{1}{2}$ " away from cloth
partition

8

9

Don't put 2 centrifugals
in series but the jets gave
no more output less than
than before. No change
could be detected. Altho
Washingtons Eng. said it
would double the pressure.



1/4 section
vent wings
1/8 apart
flat wire
1 1/2" from
cloth position
17 amp

Edgewood
gives 15 amp



In old Copper anodes
The part facing disc is more
than 3/4 gone back very little
eaten. No holes in to allow
of back being utilized

The double cloth
diaphragms when put
in stick up one side
or the other. That can
put them in anyway
The putting on of Cores
evens them up.

I put in 1/4 section flatwise
Connected it - 1 1/2" from
Cloth - Cyanided 18 1/2
amp - in at 12 35 pm for
a run to see if changes
at 12 40 dropped to
10 amp

This shows all previous
test held in momentarily
are NG - Evidently 1/4
Section too small to take
the current & passages
12 42 - 2 amp

12 50 3

12 55 4 1/2

1 pm

1 05 5 3/4

1 10 5 1/4

1 15 5 1/4

1 20 5 1/4

1 25 5 1/4

1 30 5 1/4

3 30 pm 4

4 pm look out

Cyanided
with black on a Copper
showing too high density
of formation from oxygen
CuO

¹²
Washing Jet for Nickel bath

Stouls test on O40 hole covers

Whole of music sheet test

O40, hole	2 inch	Osr	500cc	4 lb pressure
O35	2 "	55	"	4 1/2 "
O30	3 "	45 sec	"	4 1/2 "

Only O40 covers music

O40	4.166 cc per sec
O35	1.800 "
O30	2.2 "

O40 360 liters per Bath 24 hours
4 lb pressure

200 baths 22000 liters or 18000 gals
200 amode " " 18000

Total gals - $\frac{36000}{15000}$
15000 gals hour

Each bath fresh solution every
24 minutes

This is more than ample
once hourly would be enough

13

McMullin took a Cu Discard
took it to treatment Room -
Hydrogen cleaned + 8/4

Put it in Nickel bath 5 ampous
Covered OK in 1 1/2 minutes,
So if Ni bluish on all record
Material is 5 min it will be
ample

Fred Ott with Mercury gauge
funds O40 jet with 2 3/4
inch Columbian covers whole
of music
If 1" Hg equals 8 oz then it
gives pressure of 22 oz
or 1 lb 6 oz -

Fred made a mistake it is
3 3/4 inch Hg. or
30 oz pressure -

14

7 PM

15.52
15.50
14.75
14.00
13.50
13.00
12
11.50
10.50
8.50
7.00

at 8:30 put in gal
10 water 4 gal. water
been put in from
about
covered with grim probably
combed it & put back

9:30 am
9:45
Took out anode, it is 3/4
complete but almost
9:50 am 17.5
9:52 " 18.0 - spec 9 12 10
10.10 - 10. - temp of solution 79 in tank 52 in pot
coated anode after thick dissolved off very
slight red stain. Washed off & put in bath

10:25 18.

10:26 - put in 2 gal water
in the Creek

10:40 - 11 1/2 amp - spec 9 - 1180.

11:15 13 1/2

11:40 14 3/4

12

15 - 469 1180 -

10:25 put in 2 gal. more
now 5 gal. on the anode 20 gal.
Carried forward to page 23

Reg Cu discard 1 lb 3 oz ^{50g} 15
50 discs - 12 halves as
anode probably gives 3 to 4
new discs before scrapping
day 3.

I now test in a cast Copper
Anode, with support strokes
cast in. This has had surface
fired off both sides - but 1 side
has cavities & this had to face
disc & its only partially
fired -

4:45 pm - 19 1/2 amp

Average amp hours already plated
on this provisionally 16.4 amp
for 14 hours 226 amp hours

5:35 pm 16 1/2

see opposite page

Note

Our Reg Cu Sol
is kept $1,140^{\circ}$ to $1,150^{\circ}$
Try keep at $1,150^{\circ}$

Sol on account of Resin
tends to heat up. so they
pass solution thru coils
surrounded with cold
water to keep temp down

Better investigate

Rough Calculation show we
must handle 500 Bups per day
average for Redup 5 mins then
ready for Varnishing - for Redup
4 minutes

If we call the cycle 5 mins
Maximum 288 Bups 24 hours
per Cleaner $7\frac{3}{4}$ section - assume
250 only - 85 on a shift 8 hours

If we put in 3 Banks we get
750, while only 500 wanted

We then have time for Varnishing
2 coats - on on redup already
Coated, a recoat put on -
Recoat 3 hours - + Reg Coats
3 hours 1st Coat 2 hours second
Coat

If we convert 80 Bups in this
dept always we get above
drying time - Hence
Racks for 80 wanted -

15

Note 5 5

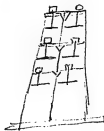
It was used 1300 Cu baths
 With $\frac{1}{4}$ section built up sections
 for anode was 2000 1440 KWH
 daily - if costs $1\frac{1}{2}$ cents KWH
 it is \$21 dollars a day
~~but~~ even Cast anodes for when
 built up anodes are used we get
 25 amps with $9\frac{1}{2}$ V where if
 Cast anodes used get only
 20 amps - & 260 baths
 less & only 1040 Baths
 necessary & no impurities
 brought in -

I will try Working Mould built up
 anodes with Ni on to see if OK -

19

If Can deposit ok with 20
 amperes only requires 43 hours for
 a disc - & 860 Baths
 If 24 amp can be used requires
 only 36 Hours & $\frac{1}{2}$ the baths 700

Racks



1000 cathodes - Murex down
 Van up best for drying & Murex down
 best on account of dust -

June 3 1920

Mould holders on hand	2091
Good	1320
To be repaired	113
Rings OK for use	105
Bottom plates part finished	116 OK

64000 records printed daily
 needs 80 presses - these hold
 960 Record pair 1960 - Mould
 holders hence the other holders
 should be repaired as we should
 have 20 loads Extra this is
 440 Mould holders -
 Total 2400 actually needed
 leaving 1000 for assembling
 room & spare for lock
 Lahr says can repair the 1320
 quickly 20 daily

At plating plant Mc tells me they keep temp of bath down to 74 to 78 by Cooling Coils. These coils are under individual table —

I think as solution of bath is changed every maker Coils should be at one Central point say at Cracks +

also think we should have filter presses

Delber has increased diameter of his slip plating parts $7\frac{1}{2}$ inches slips 6 inches apart, powerful solution



2 inches surface was density of $1\frac{1}{2}$ amp per sq inch 8 hours

86 OK - weighs 17.85 grams

Not only feeding warm house room Callipers 030 —

Continued from

226 amp hours page 14 already do

1 PM	17	amp - 1165	Spec 9
1 30	17		
2	16	Spec 9 1170	"
2 32	16	Spec 9 - 1172	
4 30	14 34	" 1175	

Temp in Crack 85° Fahr all p.m.s
 6 pm 15 Spec 9 1175 Temp
 12 midnight 14 1/2
 4 am 15
 8 am 15 Spec 9 1180 some evaporation
 Temp in Crack during night 80 @ 85

The new rubber washing set put in 4th June 3 pm + adjusted —
 OK now 5th 9 am without Touching or adjustment

* we should keep it at 1170 by adding water - added $\frac{1}{2}$ gal water at 850 am + run for $\frac{1}{2}$ hour

See next page —

24

Nicklin Electrician went over &
measured several Cu baths for
drop of Voltage across terminals
Varied from 4 To 6 Vols -

See 23 page 10 | Cast Cu *

25

June 15th -

6 am

9 am

12 am

3 am 5th June

6 am

9 am

12 night

4 am

6 am

10 am

12 noon

2 pm Sunday June 6th3 35 pm Sunday 6th

Removed for stripping

Put in another

see p 49 -

Keeping Cast Cu filed

angle in -

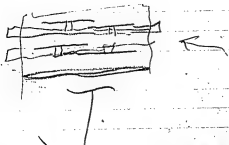
Speed	V	Amp	Good
1150	9 1/2	15	
1150	:	16	
1170	"	18 1/2	85
1170	"	19	88
1175	"	18 1/2	85
1175	"	18 3/4	80
1175	"	20	86
1175	"	19 1/2	86
1150	"	18 1/2	81
1175	"	18	80
1175	"	18	80

26

Note 7.8 on line +
with 30 amperes on here
2 Cells - Here 7.3

Drop of .5 of volt
for 30 amp

Ampere off reads here 7.7



disagreed

27

Started New Bath, 4 $\frac{1}{4}$ sections
off the dividend - Connected one
 $\frac{1}{4}$ section, started at 16 amp in
15 minutes dropped to 9 $\frac{1}{4}$ amp
showing density on this section
anode too good,

Connected up another $\frac{1}{4}$
section, Went to 19 amp

1.40 pm -	15 $\frac{1}{4}$ one
1.46 "	15 $\frac{1}{4}$ two
1.55 "	
1.56 pm	16 3 $\frac{1}{4}$ sec -
2 pm -	15 $\frac{1}{2}$ 4 sec
2.15 "	15 $\frac{1}{2}$

1.52 Bath

2.18 pm	15 $\frac{1}{2}$ 4 sections in
didn't raise amperes -	
3.32 pm	15 $\frac{1}{2}$
4.35 pm -	16 -
9.00 pm -	16 $\frac{1}{2}$
12 midnight	15 $\frac{1}{2}$
4 am	15 -
8 am -	15

See page 43

28.

Note Diller - on rapid plating
found on start Spec of soil

1135
at end of run 1180.

How did it raise —
find the reason
Besides Evaporation

29

Bus V 7.5 net wiring 31

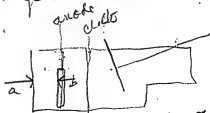
Belding's Man made some
measurements on V + amp of our
Cu Baths in 4 Rows



Bath	V	amp	
173	2.9	7.8	No 1 Row
177	3.2	8	
138	3.4	8.3	
139	4.6	11.6	No 2 Row
144	4.4	9.8	
146	4.9	9.5	
88	3.8	10.7	No 3 Row
89	3.9	11.2	
90	3.9	11.1	
65	4.6	11.8	No 4 Row
66	4.4	10.3	
67	5	11.8	
		10.5	
		2.0	8.5

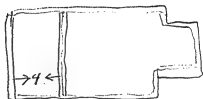
Says his Amp Meter reads 2 amp
to high

Baldungman tried this



a + 6	3.6 inches apart	8.7 amp
"	4.4 "	10.3 "
"	5.3 "	12.2 "

If anode is advanced towards cloth partition 1.7 inches the amps increase from 8.7 to 12.2



Thickness anode cast $1\frac{7}{8}$ "

Evidently anodes should be as near screen as possible,

Weight of Req Cast Anode Copper
 $16 \frac{1}{4}$ lbs

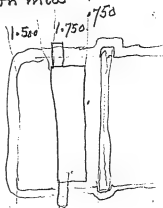


This weighs
 $11 \frac{1}{4}$ lbs

from Cast probably can plate
 off $3/4$ or 190 oz of Copper
 Each discard weighs 20 oz
 Cu - g - Copper discs
 or backings -

Probably 6 from multiple disc plates

The anode lugs should be
 Cast on thus



→ 4.000 ←

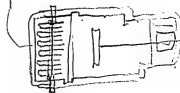
Possibly anode will Cant
 when new. may left Cover
 a little - try it

We now control Generator field
by Rheostat in Expnd Lab

Think we should have a jack
for amperes so man can walk
along + show us + read amp-
Volts not necessary -
Possibly 1 big amp the can see
all over room + a switch -

All Copper discs 37
We now start a Third Bath 3 Bath

With $\frac{1}{2}$ sections of a Cu disc and
threaded on a rod with washers
occupies almost whole of Anode
Compartment



$\frac{1}{2}$ section bent thru
washers -

Record In

	Buys	amps	Grades
2,20 p.m. June 5th	8	21	
250	8	21	
Now 10 Volts on 1800	10	25	
305 - 9 1/2	9 1/2	25	
We'll keep it all night,			
3 p.m.	10	26	
6 "	9 1/2	25	38
8 " Spec 9 1170		24 1/2	
10 " 1175		24	35

see next p. 1175

31st

Buso
VoltsAmperes
Circuit

39

	Speed	Volts	Amperes	Circuit
12 Midnight	1170	9 1/2	24	80
2 am 6th June	1175	"	25 1/4	85
4 am "	1175	"	26	86
6 am "	1175	"	25 1/2	88
8 am "	1175	"	24 1/4	86
10 am "	1180	"	23	81
12 noon "	1175	"	23	80
2 pm "	1175	"	23	80
7 " "	"	"	24	80
10 " "	1180	"	23	80
12 Midnight -	1175	"	23	80
2 am June 7	"	"	23	85
5 " "	"	"	23	80
9 " "	1170	"	22.5	82

Oct 1145 am June 7 1920

4 $\frac{1}{4}$ sections -
Made by Burns

48

Started on 4th

2.20 pm -

4 pm -

6 pm

9 "

12 midnight -

1 am - June 5

4 "

6 "

9 "

11 "

12 "

2 pm

4 pm -

7 "

10 pm

11 "

12 midnight -

1 am - 6th June

All Cañon off

About $\frac{1}{2}$ of one quarter
section left!

entire -

Certainly Can use up
80% or more

569

V

amp Rock

15 $\frac{1}{2}$

16

16

16

15 $\frac{1}{2}$

16

15

15

15

16

16

16

16

16

16

16

16

16

16

16

16

16

16

16

16

16

16

16

16

16

16

51 Bath hours at
12 amp per
1 Sec -

Today support legs
 Eaten off Due to
 flooded apartment —
 too much liquid fuel
 in —

Started in 304 Bath 45
 a multiple 'Cist m/2 -



	SpG	Volt	Temp	ClockT
8, 15 pm 6th Sunday	1175	9.5	24	80
4:30 "	1175	9.5	20.7	80
5:30 "	1175	9.5	20	83
8 - "	1180	"	25	80
10 pm "	1180	"	20.5	80
12 Midnight -	1175	"	20.5	80
2 am June 7 th	"	"	23.	85
6 - " "	"	"	23+25	80
9 " "	1170	"	22+25	82
12 Midnight -	"	"	24.5	83
2 am June 8 th	"	"	23.5	83
7 am "	"	"	21	81
12 noon "	"	"	22	82
5 pm "	"	"	23	83
Taken out				
864 Amperes				
OK -				
Callipers 066				

4 Bath - June 8 1920 47
New diac pet in

[illegible]

In Beth No 1
 Same angle - 1 Dec taken from it 49
 These to 2nd Dec

Sunday 6th	Speds	Valts	Deep	Crack
4.50 pm - 11	1175	9.5	20	—
7.09 "	"	"	21.4	—
10.09 "	1180	"	17.75	—
12 mid night	1175	"	19.5	—
13 am June 7	1180	"	19.5	—
6 am "	1175	"	18	—
9 " "	1170	"	18	—
12 noon "	1170	"	21	—
6 pm "	1175	"	17	—
12 mid night	1170	"	18	—
6 am June 8	"	"	18	—
12 noon "	"	"	17.5	—
1 pm "	"	"	17.5	82

NO 5 Bath - is 6 full discs
Bent over & not cut



This makes 6 full discs bent a not
Cut in $\frac{1}{2}$ like that in NO 4 Bath.

On	4 45 PM	6 th June	Speed	Y	Acap	Graph
	4.45 PM		1175	9.5	24	
7	"		1180	"	25	
10	"		1180	"	19	
12	Midnight		1175	"	23	
1 am			1180	"	24	
6 am June 7 th			1175	"	22	
9 "			1170	"	21	
12 "			"	"	22	
4 am June 8 th			"	"	20.25	
10 "			"	"	20	
7 PM			"	"	23	

Taken out
Callipers .068"

With the 040 jet if not striking
disc squirts out over 10 ft
showing great washing power

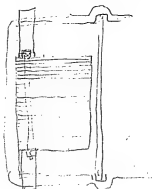
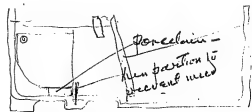
When the disc gets rubber on
outer rim the nuts scatter the
solution over rubbering area
must put up a shield

One disc went 19 hours or another
25 hours before nuts get large
enough to scatter the liquid

Just come from dinner found
supports of plate andle eaten
off Cause Apartment
flooded, liquid nearly overflowed
partially covered thin support

Reason is that regulating
cock wide open & flow
more than cloth would
filter through - Must
have definite hole 040 -
either open or closed cock

at 18 kV or 20 amp
 at 360 amp. having Copal in
 stands off inside at edge
 generally but not enough
 to prevent liquid reaching
 jet from ground to edge



Think can use solid anode
 of $\frac{1}{4}$ sections using a porcelain
 rest on bottom covering a
 considerable area so as not
 to bend rubber at bottom

The only fear is the flow
 Copper float over

and get an record will make
Nubo.

All I found in bath after
 $\frac{1}{3}$ of $\frac{1}{4}$ section anode eaten
away was extremely fine
Metallic Copper - This
settles in water in 5 min
most of it 1 min -

The thing to find out will
these Cu pieces form
nuclei for Nubo.

Think best is going to be
the nickel basket fed with
pieces of disc cut by
machine so all will
not be parallel



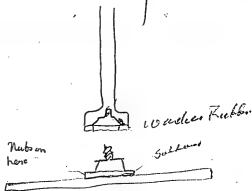
etc

Jan 14/20
 For 3 days 6 Rubber
 jets only 1 choked a little.
 The original jet 5 days
 not choked.

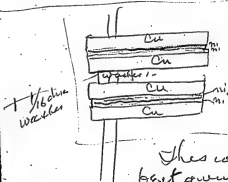
This jet is a success & will
 be made standard. Off note
 under pressure sufficient
 to blow stream across
 even a warty outer edge.

We should put in a
 different colored cover
 when holder needs
 Repair.

June 10 1920
 The holder made by Moore



Came out without any leak
 when rubber washer = so far
 its a success.



Had
 one in
 why now

This covered by
 best gassing access to
 solution, keeping this
 together.

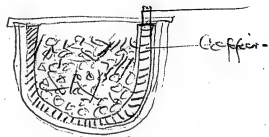
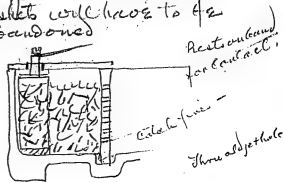
Experiment on washing off
finger marks, having a trace
of lamp black to make
conspicuous - Washing
at different angles & at
times -

Try Experiment with gloves
& also fingers -

Must have standardized balls
diameters right to grip the M
also a fastener that will adjust
the length easily & surely
without twist or possible

21
First Experiment with Nickel
Basket front face eaten
away - This shows mechanism
rolled in will not stand
in acid Copper bath near
the Cathode or

its probable electrolytic
Ni would stand for a time
but for a Swiss Mining Ni
basket will have to be
abandoned



Copper twisted to get minimum
weight -

One advantage of this is
Cheap + simpler + smaller
area from anode towards

The disc which seduces
deposited on edges,
possibly the weight of Gally
got too hot with alcohol
like Rubber - but if beaked
up from the table & lined up
it will prevent this -

As there are remarks about
Crystallization at 1175 & 1170 -
80 to 83 degrees, I think we
shall have to weaken the
solution a little.

Tried scraping off nuts with end
of white pin stick. Comes
off OK 2 minutes after -
It flakes off ~~about~~ the Varnish
where nuts removed. Many
Causes fixed by Varnish
the nuts places but when
nuts had must be removed
all over. The 2nd did the
Varnish dry & hard -

Wax Records handled June 15 1970

Come from NY in Tin boxes - sealed up, 12 put in box & shipped by Collin or other Express in Melbap box if rain get on would prob be bad ROS. Wax record of the time is always brought over by Melbap. The box #3 Delivered to Vault.

Grafing Dept gets orders to take out get orders to take out every day except Saturday - 12 at a time. All are taken out as fast as they collect.

Taken to grafing room - in this room an eye inspection made for injuries by Dempsey & McMillan. They don't talk when inspecting & defect found to metal, held between walls. Miller when he comes over only few, 1 in 6 months.

12

Number put on - taken out box blow off with compressed air. Air acrossed thru Cotton. Cotton cleaned once with Nozzle has Cotton also.

Put in Grafing Machine - 3 men to grafite. 1 can grafite can hand last 1 yr.

Grafite made by us. Golt does it. find out more about this & test it.

Holes are drilled in wax blanks at 1/2 inch before sending to NY.

Dempsey & McMillan put pens in wire up look under Micro. Set of OK just a cheap test.

Take it down to plating
noon - lay it down &
blow it off with compressed
air, from same source
as the flares -

Put on a Spider -
Put in bath -

Start 1 amp.
when $\frac{3}{8}$ covered $1\frac{1}{2}$

" $1\frac{1}{2}$ " $2\frac{1}{2}$

" 2 " $3\frac{1}{2}$

" $2\frac{1}{2}$ " $3\frac{1}{2}$

" 3 " 4

" Music Covered 5
Label Covered 6

When all all covered

put at 8 amp then

1 amp every 15 min up

to 15, then leaves in 4

hours.

Then transferred to Genl

bath for 96 hours 12 am

Temp Bath ²⁸ 74 to 78.

Specy 1,150

Only day shift do 12 every
day +
used jets.

We must study jet & move
jet & determine how strong
it is to be to prevent affecting
gratite -

Mc says Masher is larger than
working moulds abt $\frac{1}{16}$ -

If hole is not drilled could
make new pair of holders
& Masher could be larger
Protestigale -

To Twin edges Goll says
4000 cycles 7 min -


stripping $\frac{1}{2}$ min but waxing
mould etc put in boxes etc
4 minutes,

Says all masters have hole
closed - done upstairs
also ring put on -

Says. We shall need more
Vault room right away do
masters etc now require a
box instead of the thin tin
holder -

I tried 75 parts Cusoy
mixed with 25 parts Mussy
The Copper plates acid fine
strips OK & it seems to be
excessively soft not a
trace of spring to it
more like lead

76

What we need in handling is
Hardwood benches. 2" stock -
also  of thicker wood
hardwood

Men to clean all the time
nothing laid around.

Plating Dept in 24 Bldg has
trouble with pumps, air
gets in tanks should be raised
or pumps lowered to prime
the pumps thoroughly

Also Extra pumps arranged
to provide in case
accident.

In our Nickel bath in Exp Dept
We have approx 6 gals
Mussy - it peels on edge
after a while - I will
put in acetic just enough
to make full acid to litmus

As I think it is necessary to
keep iron in solution & prevent
it making the bottle

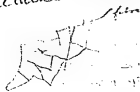
I tried wiping the Gd Copper
under water & also
in air with finest
quality of sponge

It don't harm surface but
after cleaning electrically
it sponge rubbed over
vigorously. The surface
of the substance is very hard
sponge deposits something
from itself on surface
which water don't wet

Can't use sponge

Try silk under Micro
sponge has sand particles

Even the highest grade —
Sponge is locked together
animal matter fibres.



I find that the 8/4 on copper
if deep blue is removed by
being Cathode in cleaning
tank. S.S.



I find MacM hydrometers
Reads 1255 + 60 lbs
Read 1270 Evidently
should have 2 standard
hydrometers in a case
& all used hydrom checked

80

In Plating Dept they roll
off the Nibs after plating
but they come off hard because
they turn back before pulling
in 8/4 —

Whereas if they turn back
after 8/4 they would
break off & probably
not break off turn back —

Dexter is trying Expert with
nickel faced slips cleaned
& put in 8/4 ~~for~~ 1 min
strength from 1 min to
2 hours — 1 2 3 4 5 + 6

4+5 stuck on 5th run = 1 2 3 + 6

OK — I feel sure I failed to
dip 4+5 after cleaning

So far 8 times OK trip 1 2 3 + 6

OK — Clean 20 sec dip 10 in 1 min
8/4 — for further info see ahead

with acidic acid. just red to lilac
105° F. in 18 bath - deposits
grey - perfectly flat, after stripping
no peel put in 4g amp -
Removed - peeled perfect.
There was enough Ni hydride to form acetal Ni
By bath
Put in another think it was
Copper disc - put it right on
at 1 1/2 amp - put it to 8 1/2
amp after 20 min went
to 9 1/2. Probably caused
by heat in bath, now 104 °F.

The disc run 13 hours all
together, 11 hours it was
10 amp - 2 hours at 9 1/2 + 8 amp
on start, 9 1/2 volts ~~at 100 F 10~~

By plating 10 hours
at 9 @ 9 1/2 amp get
90 hours which is all
620k - we should
try for 10 amp 10 hours
or as near that as
possible

8✓

The disc was perfectly flat.

Weight of Feed Anode



Copper piece 16 lbs -
This is weight 16.4 lbs of
Cast anode

Reg Cu disc and 051

Wt of 1 lb 30g -

The disc is Cu pieces
not twisted as much
as ~~any~~ the 3 previous
baths.

Indicates when I put a Ni strip
in 1 Min 8/4 for 15 hours
that holes are Eaten in face
some round & others irregular

This looks like dirt on surface
of liquid. When disc is
immersed the film is drawn
in contact with the face
of the disc & covers it - as
the float stuff is porous
it plates (Wet it but plates)
spongy & the 8/4 Eats it

We could blow the surface
if we now have a place in
Rubber bath to do this

This may not be sufficient
if a 2nd disc was put
in same time in advance
say 1/8 inch it would
take the film & on
with removal from bath

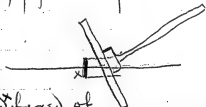
84

would carry film with it

Also when rotating the
films formed on surface
must be carried down
continuously

These films I am sure
is the cause of only
printing 500 before getting
rough - if they were
eliminated I should get
1000 or more

Another bad thing is our
solutions are cloudy
They are never clear & these
colloids including starch must
get on disc & give rise to the
spongy plating



a band fixed of
Rubber would stop film getting on

We must have better press. for Nickel
baths more efficient
have a skimmer to stop
filings, ~~perhaps~~ ~~maybe~~
also a 75 @ 100 lb pressure so it
filters through ~~considerable~~
mud.

Perhaps must be wholly
immersed - but then gas bubbles

Probably fullers Earth to
clarify from Colloids &
filter press -

The faster it plates the less
chance of getting colloidal
clots & less spongy if
gas don't interfere

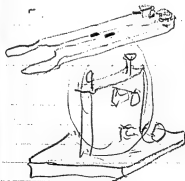
5

86

I am dipping 5 Ni strips
Clean all ~~120~~ 20 seconds
Dipping ~~84~~ 20 seconds

Thereafter no cleaning but
just dip all 10 seconds in
8/4 -

These are all in one bath
30 Cryst NiSO₄ - 3 strips
none black to Ni but ~~just~~
stripping all Torr 2nd all but
1 Torr 3rd stripping 3 Torr 3 OK
I cleaned one by mistake &
discarded it



work ok
cool

Be sure we put grease cups
on shaft bearings so oil
will not run along shaft
get on belt & when thrown
off rest on table & have
oil washed down in
trough

Wood might be better -
pure Babbett get rid oil
altogether

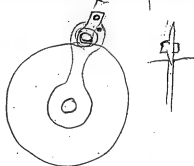
Fix bearings on pumps
so no oil can get in

58

The knife separator for forcing
apart the 2 disc works OK
on the Moore holder but some of
the old holders not turned down
enough or its troublesome to
run wedges in & separate.
Moore is true & separates
with the greatest ease.

Moore will put machine
in good shape for practical
work.

Think instead of wooden
wedges a V wheel might be
better



It will only hit edge

Note

90

I have now put a skimmer in the Michel bath. The jet is not being used with the skimmer.

The Ni plated without jet or skimmer was very warty, Mac noticed when he put it in & it started ratching lots of particles on the surface went to the Doc & Chung — But when we put skimmer on none were noticed. This skimmer may be a very good improvement to produce quiet record.

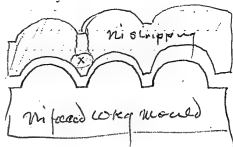
On looking at rough side of this shipping, it confirms the other one which had no jet. There is scarcely a hole in the music — both rough surfaces have same general appearance & quite different from those with jets on — However the smooth part of Edge has many good holes just as the one without jet or skimmer.

92

The Nickel Strippings .008 to .010
with jet (Rubber) .040 hole. I find
full of minute holes when looked
at in Microscope on rough
side.

Raced holes

Hole



Bubbles all about same
size get into bridge w/ all recess
of working mould



+ cling to it all through

Note

94

the platform, under Means
looking at rough side see
innumerable holes perfectly
round all along the bridge.
walk space - Very seldom is
one seen on the place where
ball tracks. Where the
holes are very thick one is
seen in track but they
are very small - less than
001 whereas regular bridge
walk but the or air holes are
002 about generally all
of one size.

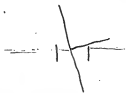
Noticed on the stripping
where we did not see the
jet it is difficult to find a
hole

I think the jet is bad that
it does more harm than
good - The large amount
of liquid & great force churning
+ puts air in the liquid making
fine bubbles + these attach

themselves to the disk +
stay there,

I have just removed a new
Neske's stripping which is
the thickest yet. $179\frac{1}{2}$
amp hours - + it has the
least nubs + is smoothest yet

This had no jet, But was
provided with a rubber
skimmer



to stop surface loss on dirt
from running towards the
disc

The one without skimmer or
jet has many isolated nubs
hardly a hole in music +
plenty holes on edge smooth
part -

It must be remembered I am
using nickel faced working
Mould discs & they have
not been cleaned perfectly
mechanically - especially
down in bridge Wall Canyon
& on smooth part

No holes show on
finished side -

There is 001 wall ok
when the bubble attaches
& clings all thru plating



Probably when back gets
rough the bubbles can
cling -

98

This one without jet has
scarcely any red spots
scarcely any holes in nickel
but plenty on edge on smooth
part

It is probably that only
The skimmer should be
used & the speed of
disc should be diminished
so it goes very much slower

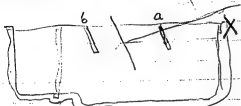
Try slower speed by
changing drive pulley
downing belt to bath
say 2" mean driving diameter
Copper Bath $4\frac{3}{4}$ Rev Min
in here.



Took off a Nickel had $203\frac{1}{2}$
amp hours - $13\frac{1}{2}$ hours and the
thick some nubs otherwise
smooth. No holes in smooth
margin found only 2 holes
in inside 002 on bridge
wall - Very Good

Had not wash yet, used
Skimmer -

I find the veg rubber
skimmers bad as they



Collected a large amount of
skimm which probably
comes out in gas at time.
I will remove them as

180
unnecessary = at X I wiped
off $\frac{1}{2}$ a thumbful of sticky
greasy oily matter where
skimmer had washed up on
sides. This would all have
gone to overflow removed
by filter cloths in fuller
jars -

We must use the skimmer
This must be all rubber.

The copper eats off altho
not connected to circuit
it oxidizes at junctions of
the liquid & acid develops
oxide,

The feed to anode jet must
see the stream off
It should be about the
center -

Note should be in
cover to remove it not
a hole

The overflow must have
Copper screws in Copper
baths + the screens in
the bath should be
adjusted even across
surface -

If cloth separators are to
be used must have
porcelain as heat
makes rubber band bad
The head of water does it

I notice our table is wrong
baths not level - rubber not
on good - if overflow of a bath
occurred it wouldn't run
in trough fix it -

I really don't think we
want the filler cloths they
make more trouble than they
do good - If our letter press
works perfect there is no
use for them -

I have now taken the back skim
also cut a square hole thru skim
next anodi 150 surface skim
runs towards this hole right
next to overflow - no clothes in

Use removable Rubber Skimmer
Believe this will give
fine results -

10% must wash & look over
Rubber bath in ~~the~~
Soda 18% to get rid of
oil etc in Rubber to
guess -

I use a good feed into
anode side -

General Inspector Can
Claw a battery strapped &
use flashlight to inspect
skins etc on cathodes

104

The skimmer no partition hole
thru a skim baffles - 12 @ 11
amp 100 amp holes - 8 @ 9
thousands thick practically
no waste full of holes
on bridge wall at each
none on face this is 1st
time this has occurred by
skimming 3 others
same conditions no hole

Noticed this disc was
dirty when put in -

There is some condition why
the bubbles cling to bridge
wall depression & not to
others -

Those which show no
holes show tracking distinct
whereas the one with holes
~~show~~ scarcely shows tracking
surface - perhaps ampere
too high & makes gas -
I find what they call porous
is one mass of holes ~~etc~~

It looks like a scum of
grease

Only 2 persons are to be permitted
to fix the pumps.

Man named Jack a Russian formerly
under Bismarck repaired all
the pumps. I say never leaked
no did it ever strip threads
in hand rubbers

Just found out source of oil
in bath. All pumps to
prevent leak ducts had
packing has lots of
tar like stuff thinned with
oil covered all wood where
they use this everywhere.

Mango Pitch thinned with
oil I just ordered all
of it out of plant &

106

Should a leak occur its to
be fixed right without tar

I find some of the
working mould
discards which I am
using to plate on
are discolored in spots
I find this is removed
by 20% NaOH solution
this is known as baked
oil -

I took a Michel female
that had several taken from
it - had a hole put in +
played L. I caught hardly
at all there was any surf
didn't hear a snap in the whale
only few light chuckles

it seemed to have a malleable
surface in the grooves but
when scraped bent over it
it brightened very much

from experiments with clips Ni to
Ni + think ~~20~~ 20 or more
is safe -

With 1 min 8/4 strength
10 sec waved dip well
washing is OK + still
going used 4 strips
2 Kaper 300 Mhz, 20 sec

4 more sec 5 sec
10 sec 20 40 +
2 hours - all work
OK - strips in
48 hours in 8/4 OK
also 48 in the Conc
8/4 10% use - Ni don't
seem to flake off or
penetrate at all

108

Whereas Copper quickly swells
+ flakes -

I have put discs in solution very
slow, also almost dropped them
in but this does not give bubble
holes -

I now try them putting in 102t



So far the shot Nickel feed
anode is functioning just
as well as a very porous
Ni Cathode. 9 1/2 V goes
12 amp on 6 ohm +

Shale partition -



Notice
Have definitely discovered
the Cause of holes on the
bridge wall, it seems strange
in all these years we have

Notice

never found the reason

If a disc is put in bath
after washing & still wet
in full of bubble holes
when looked at under
micro on the rough side
They are all along the
bridge wall.



Canyon -

They do not show on
bright or working side,
because solution goes thru
bubble & plates & then
bridge across -

These holes in the Ni are
all seen even when the Nickel
is .013 thick ~~even~~

When Disc is put in
bath Dry there is never
any holes

Notice

- 110

Hereafter, after washing &
final wash by Distilled
water stream the Discs
must be put in the whirler
& dried before putting in
Bath -

Notice -

Look a slip Nickel
faced, cleaned & 8/4
washed & put in
Reg OK Ni solution
put Maccam Oil
finger & stirred
solution then put
the slip in Dry -
Awful - full of Holes
Bridge Wall seem

Notice
to 62 bubbles = perfectly
round - Music side
OK - Have same
appearance as
Reg disc put in Ni
solution wt,
Its bubbles -

Used Reg Control Copper
Sulfate & same quantity in
of electric as is used of
Sulphuric in Reg & this

This makes very much fewer
grains in fact 0.35 thick
w/ perfect no nubs -

It doesn't give as high efficiency
~~but~~ say 90 @ 95%

Will try further -

11✓
Marqin Experiment June 24/20

Made a solution of 50 parts
of NiSO₄ + 50 parts NiSO₄
used Copper anode,
to see if Nickel affected
Copper plating - Each
dip 3 hours at 300 Ma -
Surface 2"

good soft Copper plated
out each of the 16 Runs

This apparently shows
that nickel on the Copper
put in anode apparently
will not hurt the Copper
plating solution as
long as the Cu is
predominant -

When there is 80 parts NiSO₄
+ 20 pts CuSO₄ - in anode
Copper comes on spongy

Another Margin Experiment

Made up a Conc Solution of
3 Crystallized Ni Sulfate, Spec Q
sh 1300, just acid with acetic acid
Plated a strip -
Plated to 1280 plated strip

" 1250
1220
1190
1160
1130
1100

There appears no difference in
the thickness or quality of the
plating except perhaps higher
Spec Q is better for hubs
may be shade thicker = In
practice, should the solution
go as low as 1100 it would
produce ok records but
Sol would probably
get hot - At about
density 6 @ 7 amp on
a disc we could always
lower general voltage on
Baths to meet the Emergency

114

Suppose a Crack cracked we
lost some solution - we
could patch & dilute with
water, lower the voltage
& go ahead -

I find on inspection many
idlers on bath belts are stuck
& have turned probably for
2 or 3 years - Cause
use of brass or bronze
shafts on brass idler wheel
shafts worn thus



Flanges worn thru by
belt slipping on stopped
bravine & flanged way
out -

There are many baths
this way & hats of
records stop & are
plated one side & lost

This should be put on inspection
list - Also steel pin used
Possibly rabbit (hard)
Bunch used

Dryer baths are coated white
after washing out. Most
of it is lead sulphate.
Either comes from flooding
rubber with oxide lead or
we use crystal with lead
in or something is dead
lined. Actually the overflow
pipe of one bath was
found plugged with it
like putty - used water
or nitric acid dilute -
Dougherty says mostly
lead -
Notice rubber troughs
see if lined with it -

116

Reving Orders.

Repair & substitute new pumps for old
on the line -

2 = pipe opening new clamps
New stronger Stokes rubber
Connectors, assembled &
tested before putting in place

3 40 stand end Bath to trans
across - hole cut thru from
inside skimmer - called
top plate - Brass screws
overflow -

4 = 40 plate and skimmer

5 = We should have one
large punch cock on big
pipe over baths to cut off
liquid in case accident
+ double tubing below so
if one goes the other will hold

also only use 1 stage pump
for jets + 2 stage for filler
presses

I have used 4 Ni faced slips
+ had Deller plates with Ni from
3 Chrysler Nuboy Sol with slight
Acetic. I cleaned about 15
seconds in Electro Cleaner
+ 10 seconds in Selenium
of such a strength that
it goes deep acid in one
minute. The 10 seconds
puts enough $\frac{1}{4}$ on to also says
insure perfect stripping

Plated + stripped some
slips 22 times surfaces
of slips just as bright +
shows just as perfect under
microscope as new. With this
cycle I haven't the slightest
doubt but I could go on
100 or more perhaps
indefinitely - 4 not electrocuted
just off - 16 times all ok but one + that was
just off one spot that adhered too deep

118

I found on looking at Working
Mould discards that only 1 slip
on Mole was cleaned that
after soak 2 hours in 20% NaOH.
Wiped off lots of Condensate
thru cleaning rags. Etc don't
reach down in bridge well
Canyon - not even to bottom
of shallow grooves where there is
a high Mole

Notice around where clamped
its stained bad soda does not
remove it even when vigorously
rubbed - This will not plate
over + is not cleaned by Electro
Cleaner Must be rubbed with
Vitamin lime or such

I find that in spots on these
discards is spongy places
due to dirt films caught from
bath when Ni 1st set in
oil + dirt - New Skinner
will stop this when
oil got out of system

S

I find the Rubber (soft) from
overflow to outlet at Bottom
of Bath is so stretched that
life is gone & new ones must
be put in

Think Cord must be wound
around -



No 1 Ni bath Req Spongy solid
Ni Anode

No 2 Fed Lucide Nickel

Both worked together

Temp No 1	- 99° Fahr	amp
Temp No 2	96	11.51
		12

170

I got a polished rod machined
steel $\frac{1}{2}$ " dia $\frac{1}{2}$ polished $\frac{1}{2}$
left as tool turned it
Electro cleaned then
about 5 min in $\frac{3}{4}$ " -
1 min strength - Put out on
window sill - to see rusting

We must protect our Motors from
Batteries of Electrolyte & also
Cracked block.

After 15 days = June 28/20

No 5 - 2000 large holes &
not same area as later screws
Run 15 days. 6 discs out
Each 864 Amp hours

Stand 1st	22 @ 20
2	19 @ 20
	17 @ 20
	17 @ 15
	17 @ 15
	16 @ 17
	16 @ 17

6000"

It went down to 15 I removed
disc & took out & emptied
tank. The Anode was originally
1/16" thick & was not in the
least attacked except where it
came out of liquid & this is
Effect of air oxidizing & dissolving
by the strong ZnH_2SO_4
Holes in rubber partition all
open - found extreme bottom
the copper pieces locked together
by large crystals of $CuSO_4$
Our solution is too strong
& must have a rubber tube
to deliver jet circulating
tube down near bottom
to prevent crystallization
valve to locate the specific
gravity to 1.165 or 1.160

This proves feed Anode is
OK part of the Nickel film
Eat away thick 50%
will go in Sol & become
out in cleaning Copper
perhaps less

177
The amount of Copper mud
Extraordinarily fine was about
2 oz for the 15 days work
This mud seems to be pure Copper
& fine a china clay - 179

Made 47 hours plating with slip
 $CuSO_4$ 1170 spec 9 $2\frac{1}{2}\%$ acetic
acid + 0.25% when it should
be 0.43 thick. Plating perfect
no nubs almost perfect just
Matte, a correction should be
made as its more than 2"
surface - its about 3 inches
this would make it
0.033, when it should be
0.043

We should have doz thermometer
distributed in Niagara Falls
& Watcher read every
day 3 hours & record
& better near probably showed
regularly Water Cooling

Things to be Inspected (14)

1. = Jets stuck up
2. " Not properly regulated
3. Belts slack
4. Specific Grav of Cu Sol. all cracks
5. " " Ni Sol. ^{single good}
6. Acidity of Ni Sol.
7. Clear or Cloudy Sol from
filter peroxide, Nickel.
8. Ditto Coferet
9. Leaking joints Set 1 2 3 & 4
10. Electrocleaning Sol if Alkaline
11. Lights burning Set 1. 2. 3. 4
12. Are jets properly adjusted on
Washers -
13. Time cleaning [Electro]
test 6/4 baths with Copper ship.
14. Note if men put in disc
in Electro cleaning bath
with Current off. Current
should not be on
15. Note if men fail to
quickly turn when pulling
belt on disc in 8/4 bath
it should not stand still
in this bath for more than 2 or 3 sec.

1/6

- 16- Note if men do not use
their Cotton gloves -
- 17- If feed Anodes are kept full -
- 18 Note cracks in Rubber
box showing leak -
- 19 Note if holders for Disc &
shaft kept clean -
- 20 Note ampours on bath
in & Cu -
- 21 Note Valts on bath.
- 22 Note if disc dryer runs
true & shafts don't chatter
- 23 - Note if in taking discs
off holder. that no copper
or nickel sol has got in &
no plating - if found note
the percent but let each lot
you see taken apart,

24. Note if cloth in the Ni bath is very dirty - If it is so dirty it backs up the sections in a side Compartment notice Evidence that it has overflowed

25 When stripping is being notice say one frozen being stripped & see if instructions followed

26 - Note if Carefully handled after stripping & in boxes secured so as not to injure in carrying

27 Note if ^{front} back of Cu + Ni are excessively wet by more than usual

28 Temp of B Ni & B Copper baths in the 3 room & Temp of the general Creek

- 29 Note any dirty places
- 30 Note places they do not keep clean
- 31 = Note sparking on Motors & Dynamos each Dept.
- 32 Note any leak in roof
- 33 Read at nearly same time Valt. & Amps on Dynamos -
- 34 See overflows in bath are adjusted so liquid always stays center of disc & see if properly secured.
- 35 See that no loose tool screws or other things lay on baths which might fall in baths -

We have June 21 1920

42 printing presses & 74
Blank presses

Short says can crowd in
20 more printing & 12
blank - But must have
ventilated on in Blank
press room -

Just finished plating a nickel in
No. 1 Ni Bath. Cast Ni anode &
square hole skimmer & a skimmer
Total 1397 amp hours
average 11.4 amperes @ 1/2
Volts. Total time 122 hours.
Less waste & retests than the best
Copper with 500 amp -
it was a thin record & was
bowed or rather dished -

Callipers - 084
16 1/2 amp to 001

The No. 2 is still going -
now 1562

13✓

36 - Note bearings of drive shafts
& if belts are tight.

37 - Note state of filter cloths when
removed - amount of mud on

38 - Note if leaks in stuffing
box of pumps -

39 - Note any vibration of rollers
on Motors or if not properly
protected -

40 - Note if men in charge are
at their posts

41 - When inspecting any break
down clear up note cause
of trouble & what was done
there & if bath shaft were
running -

42 - Note if idlers are not
stuck on Bath -

43 - Note Belt hook of OK

44 - Note if overflow is running evenly over whole Edge in bath -

45 - Note if solution is clear in the Skimmer -

46 See if Skimmer in right position -

47 - See if pumps have right speeds -

48. Note if sight feed is working OK & adjusted

49 Notice any spattering of solution around sight jet - it means air is in solution or Centrifugal is pumping air -

50. Notice any accumulation of crystals dirt on floor leaks any where, a spill of liquid screws & tools laying on bath -

51 = The pipe from overflow
at bottom gets plugged
with apparently sulfur
Lead either from lead in
the bath rubber or from
elsewhere in Copper bath
Inspect for free passage
Can run $1/8$ " Nickel wire down
to a mark-on wire

52 Many thermometers distributed
thru Ni & Cu baths & read.

1170. CuSO₄ 25 cc active fluid
Does not plate any better
than Reg. with 2 1/2% H₂SO₄
& the Resistance is high
temp. 136° F. - 117 -

Nickel disc in No 2 Ni bath
Removed - 1741 amp hours
137 Hours -

Average Amp 12.7 - max
temp 14 9 1/2 V all night
10 V. Perfect plating

↓
I went 1200 amp with
a nub of fine grain - Most
perfect plating ever done
for surfaces Cu -
Didn't dish disc -

This has what anode =
Yellowish June 30th & examined
Shot



Caliber

816

was used hundreds of thousands
Shot anode functions so far
Perfect -

←
This is 15 amp hour per
1/1000 - 9 1/2 V 12.7 amp
137 Hours -

ans

Oh Dear!

Slate goes to pieces
in Regl Copper solution

It also scales off in
Nickel Sol. salt runs
inside cleavages -

ng.

Anode Dept. - All day work

Punch discs - 1st Electro cleaning
removal of Fe mesh -
final wash -

2 = Supply in box in each bldg
bag + trap over shoulder
to feed -

3 = Tank in each room to remove
a bath + wash out + put back
Collection of sludge + small
pieces -

4 = Good rapid supply for
removing sludge to
trough -

5 = Sheet copper $1/8$ thick to
lie place. scrap lost + closed
up - Lake or Exchanger in Cu
family retained but men
used in plant if possible

anode.

6 System of history + schedule
back -

7 2 Nickel strap (not for use)

8 Solid Cu anodes + clock
Kept - Minimum

9 1/2 Nickel strap anodes
clock Kept, Minimum

Repair work-

- 1= Extra baths numerous
- 2 Shimmers. "
- 3 " " "
- 4 " glasses "
- 5 " Plates ~~or~~ perished "
- 6 " Standard holders "
- 7 " Overflow trough "
- 8 " " Rubber tube "
- 9 " " screws "
- 10 " Feed Inside Covers "
- 11 " Holder Control Spgs "
- 12 " Guarding Lugts "
- 13 " Belts "
- 14 " Belt idlers "
- 15 " Corner idler pulleys "
- 16 " " idlers "
- 17 " pumps "
- 18 " Pump Motors "
- 19 " Main shaft pulleys "
- 20 " Bracket for holding Jeff. "

Penny

Notebook Series -- Notebooks by Edison and Other Experimenters
Disc Plating Experiments
Notebook, N-20-06-07.1

This notebook was used during June-September 1920 by Edison, Walter N. Archer, John McMullen, and W. J. Taylor. The entries pertain to the plating processes involved in the manufacture of disc records. The early entries by Edison describe proposed experiments on the copper anode using discs composed of working mold discards with thick layers of nickel on them. Following these entries are tabular reports by Archer and Taylor listing the date and time, specific gravity, volts, amps, crock temperature, and the condition of the anode during plating in "Bath 6" from June 7 through July 20. Notes, suggestions, and instructions by Edison are interspersed throughout the tables. These reports are followed by daily reports from "Mac" (John McMullen) describing the percent of plated molds rejected for various reasons (for example, loose nickel or blisters) from July 26 through September 2. A table inserted into the book summarizes the daily results. At the end of the book are several pages of tabular forms without data (not selected). The front cover is labeled "Mc Report 6." The pages are unnumbered, and at least one page has been removed from the book. Approximately 150 pages have been used.

Book 6

144

This is same kind of an anode as in Bath No 3 - This is No SIX
Except the discs are working mould discs and have thick layer of nickel on
The Experiment is to see if Anode Cu will all be used without attacking the nickel

Anode after 3 or 4 discs are plated out should be examined



Date	Spec	Volt	Amp	Nick Temp
5:45 PM	1175	9.5	23 1/2	81
6:10	1175	9.5	23 1/2	81
7:45	1170	9.5	24	83
8:45	1170	9.5	24 1/2	83
9:45	1170	9.5	25	82
10:45	1170	9.5	22	82
11:45	1170	9.5	22 1/2	83
Jan 8				
12:45 AM	1170	9.5	23	83
1:45	1170	9.5	23	83
2:45	1170	9.5	23 1/2	82

	6	Spec	Volts	Amps	Cock Temp
	3.45	1170	9 1/2	24	83
	4.45	1170	9 1/2	23	83
24	5.45	1170	9 1/2	24	83
	6.45	1170	9 1/2	24	83
	7.45	1170	9 1/2	22	83
	8.45	1175	9 1/2	22	80
	9.45	1175	9 1/2	23	82
	10.45	1170	9 1/2	22 1/2	84
	11.45	1170	9 1/2	22 1/2	81
30.15	12.45	1175	9 1/2	22	83
	1.45	1175	9 1/2	22 1/2	83
	2.45	1175	9 1/2	22	82
	3.45	1175	9 1/2	23	81
	4.45	1175	9 1/2	21 1/2	82
	5.45	1175	8 1/2	21 x	82
	6.45	1175	9 1/2	21	82
	7.45	1175	9 1/2	21	83
	8.45	1175	9 1/2	21	82
	9.45	1180	9 1/2	21	82
	10.45	1170	9 1/2	21	80
	11.45	1170	9 1/2	21 1/2	82
	12.45	1170	9 1/2	22	83
	1.45	1170	9 1/2	22	83
	2.45	1170	9 1/2	22	83
	3.45	1170	9 1/2	22	81
	4.45	1170	9 1/2	22	82
	5.45	1175	9 1/2	22	81

time	Sp. ch	Volts	Comp	Couch Temp
6.45	1170	9%	22	81
7.15	1170	9%	22	81
not 7:15 AM				

Bath
H₂ 6

Out. first one
Caliper 069-

Time	Spd	Temp	Ampl	Temp
June 9				
11 AM				
9	1170	9 1/2	20	80
10	1175	9 1/2	20	80
11	1175	9 1/2	21	80
12	1170	9 1/2	20	82
1:00	1170	9 1/2	20	82
2:00	1170	9 1/2	20	80
3:00	1170	9 1/2	20	80
4:00	1170	9 1/2	20	83
5:00	1170	9 1/2	20	83
6:00	1170	9 1/2	20	83
7:00	1170	9 1/2	20	81
8:00	1170	9 1/2	20	80
9:00	1170	9 1/2	20	80
10:00	1170	9 1/2	20	80
11:00	1170	9 1/2	20	82
12:00	1170	9 1/2	20	82
June 10				
1:00	1170	9 1/2	20	82
2:00	1170	9 1/2	20	82
3:00	1170	9 1/2	20	82
4:00	1170	9 1/2	21	83
5:00	1170	9 1/2	20	83
6:00	1170	9 1/2	21	82
7:00	1170	9 1/2	21	83
8:00	1170	9 1/2	20	83
9:00	1170	9 1/2	20	83

Bath
No 6
2nd Spec in
Same Anode

24 hours

Bath No 6-

Circle broken stopped at 2:52
 Affluent flooded over screen
 Started again at 3:30

June 10	Bath	No. 6		
1:00	1170	9 1/2	20	80
1:00	1170	9 1/2	20	80
11:00	1175	9 1/2	20	81
2:00	1175	9 1/2	20	82
1:00	1175	9 1/2	21	81
2:00				
3:30	1175	9 1/2	21	80
4:30	1175	9 1/2	21	80
5:30	1175	9 1/2	21	80
6:30	1175	9 1/2	21	80
7:30	1175	9 1/2	21	80
8:30	1175	9 1/2	21	80
9:30	1170	9 1/2	21	80
10:30	1170	9 1/2	21	80
11:30	1170	9 1/2	21	80
12:30	1170	9 1/2	20	82
1:30	1170	9 1/2	20	83
2:30	1170	9 1/2	20	82
3:30	1170	9 1/2	20	82
4:30	1170	9 1/2	20	80
5:00	1170	9 1/2	20	80
AM				
OUT				

stopped
 2:15 Circle Affluent
 started

86 ft

42

No 6 2nd Disc same Circle

860 Amp in 4 1/2 hour

Out June 11:5 AM

port June 11:5 am

Call for 68

start June-11
9.00 AM

But. No 6

3rd Disc. in
same mode

Time	Spec	Dist	Comp	Temp
9.00	1170	9 1/2	19	80
10.00	1170	9 1/2	18	81
11.00	1170	9 1/2	18	82
12.00	1170	9 1/2	18	82
1.00	1170	9 1/2	18	82
2.00	1170	9 1/2	18	80
3.00	1170	9 1/2	18	80
4.00	1170	9 1/2	18	83
5.00	1170	9 1/2	18	83
6.00	1170	9 1/2	18	82
7.00	1170	9 1/2	18	83
8.00	1170	9 1/2	18	83
9.00	1170	9 1/2	18	83
10.00	1170	9 1/2	18	82
11.00	1170	9 1/2	18	80
12.00	1170	9 1/2	18	80
1.00	1170	9 1/2	18	80
2.00	1170	9 1/2	18	80
3.00	1170	9 1/2	18	80
4.00	1170	9 1/2	18	81
5.00	1170	9 1/2	18	80
6.00	1170	9 1/2	18	80
7.00	1170	9 1/2	18	80
8.00	1170	9 1/2	18	80
9.00	1170	9 1/2	18	80
10.00	1170	9 1/2	18	81
11.00	1170	9 1/2	18	81
12.00	1170	9 1/2	18	81

9 PM
Starting to
Crystallize

296

24 145

015

Bath 6

Time	S.S.	Volt	Amp	Temp	3rd wire same circle
9:00	1170	9-5	19	83	
10:00	1170	9-5	18	83	18
11:00	1170	9-5	18	83	36
12:00	1170	9-5	18	83	54
1:00	1170	9-5	18	83	72
2:00	1170	9-5	18	83	90
3:00	1170	9-5	17	83	107
4:00	1170	9-5	17	82	124
5:00	1170	9-5	18	80	142
6:00	1170	9-5	18	80	160
7:00	1170	9-5	18	83	178
8:00	1170	9-5	18	93	
9:00	1170	9-5	18	83	
10:00	1170	9-5	18	83	
11:00	1170	9-5	18	81	
12:00	1170	9-5	18	85	
1:00	1170	9-5	18	84	
2:00	1170	9-5	18	84	
3:00	1170	9-5	18	82	
4:00	1170	9-5	19	82	
5:00	1170	9-5	19	82	
6:00	1170	9-5	18	82	
7:00	1170	9-5	18	82	150
8:00	1170	9-5	18	82	
9:00	1170	9-5	18	82	
10:00	1170	9-5	18	82	
11:00	1170	9-5	18	82	
12:00	1170	9-5	18	82	

Bath No 6 3 Fine in same circle

8-56 Amp in 47 hours

at about 18 Amp

Out 7:00 A.M.

Per hour

June 13-

A.M.

OUT

Out

Beth No 6

4th Dist

June

13

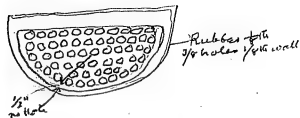
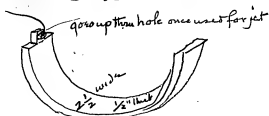
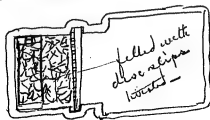
AM

	Sub	Birth	Comp	Temp	Net	Grav	Cord
12.00	1175	9-5	20	81			
2.00	1175	9-6	20	81	20		
2.00	1175	9-5	20	81	40		
3.00	1175	9-5	20	82	60		
4.00	1175	9-5	20	82	80		
5.00	1175	9-5	20	82	100		
6.00	1175	9-5	20	83	120		
7.00	1175	9-5	20	83	140		
8.00	1175	9-5	20	83	160		
9.00	1175	9-5	20	83	180		
10.00	1175	9-5	20				
11.00	1175	9-5	20				
12.00	1175	9-5	20				
1.00	1170	9-5	20	80	260		
2.00	1170	9-5	20	81	280		
3.00	1170	9-5	20	82	300		
4.00	1170	9-5	21	80	321		
5.00	1170	9-5	20	80	341		
6.00	1170	9-5	20	82	361		
7.00	1170	9-5	20	81	381		
8.00		broken	off				

Moder broken off support
bar, taken out at
June-14 8:00 O'clock AM

Tooth out

New Basket Anode 6 Beeth



Time	Volts	Amps	Temp	Total Amps
June 14 5.9	1175	9 1/2	21	83
8:10 M	1175	9 1/4	23	82
8:40	1175	9-3	23	82
9:40	1175	9.5	24	82
10:40	1175	9.5	25	83

Flasher with Diodes

June 18th Bath No. 6

AM	Secs	Volts	amps	Temp	Turns
1.40	1175	9.5	25	80	120
2.40	1175	9.5	25	80	145
3.40	1175	9.5	25	80	170
4.40	1175	9.5	25	80	195
5.40	1175	9.5	25	80	220
6.40	1175	9.5	25	80	245
7.40	1175	9.5	25	80	270
8.40	1170	9.5	24	83	294
9.40	1170	9.5	24	83	318
10.40	1170	9.5	23	83	341
11.40	1170	9.5	22	81	363
12.40 ^{pm}	1170	9.5	22	82	385
1.48	1170	9.5	22	81	407
2.40	1170	9.5	22 $\frac{1}{2}$	80	429
3.48	1170	9.5	23	80	452
4.40	1170	9.5	23	80	475
5.40	1170	9.5	22 $\frac{1}{2}$	80	497
6.40	1170	9.5	22 $\frac{1}{2}$	80	520
7.40	1170	9.5	22 $\frac{1}{2}$	80	541
8.40	1170	9.5	22	80	564
9.40	1170	9.5	22 $\frac{1}{2}$	83	569
10.40	1170	9.5	22 $\frac{1}{2}$	83	591
11.40	1170	9.5	22 $\frac{1}{2}$	83	614
12.40 ^{pm}	1170	9.5	23	80	637
1.40	1170	9.5	22	80	659
2.40	1170	9.5	22	80	681

Time	S.S.	Volts	Amps	Temp	Temp
3.40	1170	9.5	22	80	703
4.40	1170	9.5	22	80	725
5.40	1170	9.5	22	80	747
6.40	1170	9.5	22½	80	769
7.40	1170	9.5	23	80	792
8.40	1170	9.5	23	83	815
9.46	1170	9.5	23	83	838
10.40	1170	9.5	23	80	861
11.40	1170	9.5			

Booth No 6
first Out

Out

88 hours

June - 16 - AM

22½ amp
Bo. Henry

Bath #46

2nd Disc

same as usual

Time	Spk	Wt	Comp	Temp	Total
2:30	1170	9 1/2	2 1/2	82	
3:30	1170	9 1/2	2 1/2	82	21
4:30	1170	9 1/2	2 1/2	82	44
5:30	1170	9-5	2-2	82	66
6:30	1170	9-5	2-1	82	87
7:30	1170	9-5	2-1	82	108
8:30	1170	9-5	2-1	82	129
9:30	1170	9-5	2-1	83	150
10:30	1170	9-5	2-1	83	171
11:30	1170	9-5	2-1	80	192
12:30	1170	9-5	2-0	80	212
1:30	1170	9-5	2-1	80	233
2:30	1170	9-5	2-1	80	254
3:30	1170	9-5	2-1	80	275
4:30	1170	9-5	2-1	80	296
5:30	1170	9-5	2-1	82	317
6:30	1170	9-5	2-2	83	339
7:30	1170	9-5	2-1	81	360
8:30	1170	9-5	2-1	83	381
9:30	1170	9-5	2-1	83	402
10:30	1175	9-5	2-1	83	423
11:30	1175	9-5	2-2	83	445
12:30	1175	9-5	2-2	81	467
1:30	1175	9-5	2-2	81	488

Current off
" on

Beth 7146

June	S. Len	Colts	Comp	Temp	Atal
117 P.M.					
1.30	1175	9-5	21	81	488
2.30	1175	9-5	20	82	508
3.30	1175	9-5	20	82	528
4.30	1175	9-5	20	82	548
5.30	1170	9-5	20	82	568
6.30	1170	9-5	20	82	588
7.30	1175	9-5	19	82	607
8.30	1175	9-5	20	82	627
9.30	1175	9-5	20	82	647
10.30	1175	9-5	20	82	667
11.30	1175	9-5	20	82	687
12.30	1175	9-5	20	80	707
June 18					
1.30	1175	9-5	20	80	727
2.30	1175	9-5	20	80	747
3.30	1175	9-5	20	82	767
4.30	1175	9-5	20	80	787
5.30	1175	9-5	20	80	807
6.30	1175	9-5	20	80	827
7.30	1175	9-5	20	82	847
8.30	1175	9-5	20	83	867
9.30					
20% Comp					42 hours
					Comp
					Out 40

This has the skimmer on
jet used

skimmer -
also jet

feed mode

Beth 7/6

13 Hot Disc
some mode

June 18

AM	Sta	Temp	Temp	Total
10:30	1175	9 1/2	15	83
11:30	1175	9 1/2	17	83
12:30	1175	9 1/2	20	83
1:30	1175	9 1/2	19	83
2:30	1175	9 1/2	19	83
3:30	1175	9 1/2	19	84
4:30	1175	9 1/2	18 1/2	84
5:30	1175	9 1/2	18 1/2	84
6:30	1175	9 1/2	18	83
7:30	1175	9 1/2	18	83
8:30	1175	9 1/2	18	83
9:30	1175	9 1/2	18	83
10:30	1175	9 1/2	18	83
11:30	1175	9 1/2	18	80
12:30	1175	9 1/2	18	80
June 19				
1:30	1175	9 1/2	18	80
2:30	1175	9 1/2	19	80
3:30	1175	9 1/2	18	80
4:30	1175	9 1/2	18	80
5:30	1175	9 1/2	18	80
6:30	1175	9 1/2	18	80
7:30	1175	9 1/2	18	80
8:30	1175	9 1/2	18	80
9:30	1175	9 1/2	18	80
10:30	1175	9 1/2	18	80
11:30	1175	9 1/2	18	80
12:30	1175	9 1/2	18	80
1:30	1175	9 1/2	18	80
2:30	1175	9 1/2	18	80
3:30	1175	9 1/2	18	80
4:30	1175	9 1/2	18	80
5:30	1175	9 1/2	18	80
6:30	1175	9 1/2	18	80
7:30	1175	9 1/2	18	80
8:30	1175	9 1/2	18	80
9:30	1175	9 1/2	18	80
10:30	1175	9 1/2	18	80
11:30	1175	9 1/2	18	80
12:30	1175	9 1/2	18	80

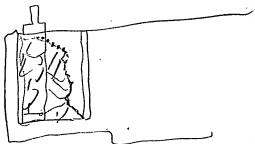
over

Bath No 6

JUNE 19
AM

	Lib	Volts	Comp	Temp	Total
9:30	1175	9 1/2	18	83	420
10:30	1175	9 1/2	18	83	438
11:30	1175	9 1/2	18	83	456
12:30	1175	9 1/2	18	83	474
1-30 P.M.	1175	9-5	18	83	492
2:30	1175	9-5	18	83	510
3:30	1175	9-5	18	83	528
4:30	1175	9-5	18	83	546
5:30	1175	9-5	18	83	564
6:30	1175	9-5	18	83	582
7:30	1175	9-5	18	83	600
8:30	1175	9-5	18	83	618
9:30	1175	9-5	17	83	635
10:30	1175	9-5	17 1/2	83	652
11:30	1175	9-5	17	83	669
AM JUN 20					
12:30	1175	9-5	17	83	686
1:30	1175	9-5	17	80	703
2:30	1175	9-5	17	80	720
3:30	1175	9-5	17	80	737
4:30	1175	9-5	17	80	754
5:30	1175	9-5	17	81	771
6:30	1175	9-5	17	82	788
7:30	1175	9-5	17 1/2	82	806

This is 3rd desc taken and
End every time



filled up

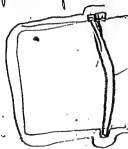


plate
porcelain
Alkalite

Beet
locals
Dorealain
or Kiebler spruce
gets hat from high
amperage
must be
fixed

Bath No 6

June 20

Time	Volts	Amp	Temp	Total
8:30	1175	9.5	18	824
9:30	1175	9.5	18	842
10:30	1175	9.5	18	860
11:00	1175	9.5	18	869

Amp

Out June 20
11:00 A.M.

48 1/2 hours

18 Amps/ton

New one in —				
No jet skimmer used — anode				
Complaint filled up — jet feeds				
anode dist. not much after stream				
Time	Volts	Amp	Temp	Total
4:45	1175	9.5	20	83
5:45	1175	9.5	20	83
6:45	1175	9.5	21	83
7:45	1175	9.5	22	83
8:45	1175	9.5	22	82
9:45	1175	9.5	22	82
10:45	1175	9.5	21	82
11:45	1175	9.5	21	82

over

Beth 916
43 in

JUNE						
AM	SLW	Rolls	Cmp	Cmp	Total	
1245	1175	9 1/2	21	83	170	
145	1175	9 1/2	21	82	191	
245	1180	9 1/2	21	83	212	
345	1180	9 1/2	21	82	233	
445	1180	9 1/2	21	82	254	
545	1190	9 1/2	21	82	275	
645	1180	9 1/2	21	84	296	
745	1180	9 1/2	20	82	316	
845	1180	9 1/2	20	82	336	
945	1180	9 1/2	20	83	356	
1045	1175	9 1/2	20	83	376	
1145	1175	9 1/2	20	83	396	
1245	1175	9 1/2	20	83	416	
145	1175	9 1/2	21	83	437	
245	1175	9 1/2	20	83	457	
345	1175	9 1/2	20	83	478	
445	1175	9 1/2	21	83	498	
545	1175	9 1/2	21	83	519	
645	1175	9 1/2	21	83	540	
745	1175	9 1/2	21	83	561	
845	1175	9 1/2	20 1/2	83	581	
945	1175	9 1/2	20 1/2	83	602	
1045	1175	9 1/2	20	83	622	
1145	1175	9 1/2	20	83	642	

Bath No 6.

same Arrive

JUNE
24

Time	Ship	Out	Comp	Temp	Total
12:45	1175	9.5	20 1/2	83	66 1/2
1:45	1175	9.5	20 1/2	83	68 3
2:45	1175	9.5	21	83	70 1/2
3:45	1175	9.5	21 1/2	83	72 1/2
4:45	1175	9.5	21 1/2	83	74 7
5:45	1175	9.5	21 1/2	83	76 1 1/2
6:45	1175	9.5	20	84	78 8
7:45	1175	9.5	20	84	80 8
8:45	1175	9 1/2	20	83	82 8
9:30	1175	9 1/2	20	83	84 8
10:30	1175	9 1/2	20	83	86 8
					Comp
					Out
					42 hours
					20 1/2 Per hour

Net Beth 5 line in
some creek

JUNE	SBW	Wth	Comp	Temp	Net
21					
AM					
10.00	1175	9 1/2	20	83	
11.00	1175	9 1/2	19	83	19
12.00	1175	9 1/2	19	83	38
AM June 23					
1.00	1175	9 1/2	19	80	54
2.00	1175	9 1/2	19	80	76
3.00	1175	9 1/2	19	80	95
4.00	1175	9 1/2	19	80	114
5.00	1175	9 1/2	19	80	133
6.00	1175	9 1/2	19	80	152
7.00	1175	9 1/2	19	80	171
8.00	1175	9 1/2	19	80	190
9.00	1175	9 1/2	19	80	209
10.00	1175	9-5	19	80	228
11.00	1175	9-5	19	83	247
12.00	1175	9-5	19	83	266
1.00	1175	9-5	19	83	285
2.00	1175	9-5	20	83	305
3.00	1175	9-5	20	83	325
4.00	1175	9-5	20	83	345
5.00	1175	9-5	20	83	365
6.00	1175	9-5	20	83	385
7.00	1175	9-5	20	83	405
8.00	1175	9-5	20	83	425
9.00	1170	9-5	20	83	445

over

256 Bath Chamber filled up
 Amp. dropped from 20 to 18 Amp
 when filled went up to 20 temp

256 Bath 5'2" in

JUNE 23	PM	SLN	Volts	Amp	Temp
10:00	1170	9 1/4	20	84	465
11:00	1170	9 1/2	20	84	485
12:00	1170	9 1/2	20	84	505
AM June 24					
12:00	1170	9 1/2	20	84	525
2:00	1170	9 1/2	21	80	546
3:00	1170	9 1/2	21	80	567
4:00	1170	9 1/2	22	80	587
5:00	1170	9 1/2	21	80	610
6:00	1170	9 1/2	21	80	631
7:00	1170	9 1/2	22	80	653
8:00	1170	9 1/2	20	82	673
9:00	1170	9 1/2	20	83	693
10:00	1170	9 1/2	20	83	713 Soffed Chatter
11:00	1170	9 1/2	20	83	733 at 12 o'clock
12:00	1170	9 1/2	20	83	753 to make Room for Justice medal
start	June 25	PM			
12:00	1170	9 1/2	18	81	771
1:00	1170	9 1/2	18	82	789
2:00	1170	9 1/2	18	83	807
3:00	1170	9 1/2	18	83	825
4:00	1170	9 1/2	18	83	843
5:00	1170	9 1/2	19	81	862
6:00	1170	9 1/2	19	81	881 Out

256 Bath Out June 26 6:00 AM

881 Amp Sign 44 hours about
 20 Amp Bottom

In June 22 taken out and
 put back again

Out June 26

6:00 AM

Bath No 6 *ch. size*
same much

June 26					
AM	Lbr	Orth	Comp	Temp	Total
10.00	1170	9-5	18	80	
11.00	1170	9-5	18 1/2	83	18-5
12.00	1170	9-5	19 1/2	80	38
1.00 PM	1170	9-5	19 1/2	80	57
2.00	1170	9-5	20	80	77
3.00	1170	9-5	20 1/2	83	98
4.00	1170	9-5	20 1/2	83	118
5.00	1170	9-5	20 1/2	80	139
6.00	1170	9-5	20	80	159
7.00	1170	9-5	20	83	179
8.00	1170	9-5	20	83	199
9.00	1170	9-5	20	83	219
10.00	1170	9-5	20	83	239
11.00	1170	9-5	20	83	259
12.00	1170	9-5	20		279
June 24					
AM	Lbr	Orth	Comp	Temp	Total
1.00	1170	9-5	20	81	299
2.00	1170	9-5	20	80	319
3.00	1170	9-5	20	81	339
4.00	1170	9-5	20	81	359
5.00	1170	9-5	20	81	379
6.00	1170	9-5	20	81	399
7.00	1170	9-5	19	81	418
8.00	1170	9-5	18	81	438

UK

210

Bath #6 6th Disc

Time	Shv	Bath	Onp	Onp	Wt
27 AM					
9:00	1170	9-5	20	83	456
10:00	1170	9-5	20	83	476
11:00	1170	9-5	20	83	496
12:00	1170	9-5	20	83	516
1:00	1170	9-5	20	83	536
2:00	1170	9-5	18	83	554
3:00	1170	9-5	18	83	572
4:00	1170	9-5	18	83	590
5:00	1170	9-5	18	83	608
6:00	1170	9-5	18	83	626
7:00	1170	9-5	18	83	644
8:00	1170	9-5	18	83	662
9:00	1170	9-5	18	81	680
10:00	1170	9-5	18	81	698
11:00	1170	9-5	18 1/2	81	716
12:00	1170	9-5	18 1/2	80	735
1 AM	June 28				
1:00	1170	9-5	20	80	755
2:00	1170	9-5	20	80	775
3:00	1170	9-5	18	81	79.3
4:00	1170	9-5	18	81	81.1
5:00	1170	9-5	18	81	82.9
6:00	1170	9-5	18	81	84.7
7:00	1170	9-5	18	82	86.5
8:00	1170	9-5	14	82	88.2

Bath #6 6th Disc Out
June-28-8:00

882 Onp in 46 hours
about 19 onp in hour

Out

Booth 536 7th Lincoln

June 28	Start	Exhibit	Temp	Temp	Total
10:30	1170	9-5	17	82	17
11:00	1170	9-5	17	83	34
12:00	1170	9-5	17	83	50
1:00	1175	9-5	16	80	66
2 "	1175	9-5	16	83	82
3 "	1175	9-5	16	81	99
4 "	1170	9-5	17	82	117
5 "	1165	9-5	18	78	135
6 "	1165	9-5	18	80	153
7 "	1165	9-5	18-5	80	171
8 "	1165	9-5	18-5	80	187
9 "	1165	7-5	16	80	203
10 "	1165	9-5	16	80	219
11 "	1165	9-5	16	80	235
12 "	1165	9-5	16	80	
4 M	June 29				
1:00	1165	9-5	16	81	251
2:00	1165	9-5	16	81	267
3:00	1165	9-5	16	82	283
4:00	1165	9-5	16	82	299
5:00	1165	9-5	16	81	315
6:00	1165	9-5	16	81	331
7:00	1165	9-5	16	82	347
8:00	1165	9-5	16	82	363
9 "	1165	9-5	16-5	87	379
10 "	1165	9-5	16-5	86	396

Booth 536
7th Lincoln

#6 Bath

#7 Leise

June 29-30

Volts	Sp. gr.	Volts	Amp.	Temp.	Total
11:30 AM	1165	10.	17	90	413
12	1165	10.	17	86	430
1 PM	1165	10.	17	90	447
2	1165	10.	17	90	461
3	1165	10.	17	90	478
4	1165	10	17	88	495
5	1165	10	17	87	512
6	1165	10	17	85	529
7	1165	10	17	85	546
8	1165	10	17.5	85	563
9	1165	10	17.5	85	581
10	1165	10	17.5	85	598
11	1165	10	17.5	85	616
12:00	1165	10	17	83	633
AM	June 30				
1:00	1165	10	17	82	650
2:00	1165	10	17	82	667
3:00	1165	10	17	82	684
4:00	1165	10	17	81	701
5:00	1165	10	17	81	718
6:00	1165	10	17.5	81	735
7:00	1165	10	17.5	81	753
8:00	1165	10	17	81	770
9:00	1165	10	17	80	787
10:00	1165	10	17	82	804

$$\begin{array}{r}
 52 \overline{) 869} \quad 2 \\
 \underline{349} \\
 319 \\
 \underline{312} \\
 370 \\
 \underline{364}
 \end{array}$$

(16.7)

6 Bath #7 disc.
 disc. scrap and
 Start June 28, 201 - 10:30 AM.
 Finish " 30, 201 - 2 PM.
 Total Amps 869
 " hours 52
 Average Amps 16.7

6 Bath

June 30, 20.

Rate	Sp. Rn	Volts	Amps	Temp	Total	Sec
11 AM	1165	10	16.5	83	820	
12 -	1165	10	16.5	80	837	
1 PM	1165	10	16.5	85	853	
2 -	1165	10	16	82	869	

7 disc

Act

#6 Bath

Start June 30, 20.

#8 Disc.

Scapa rise, and

Wate	Sp. Pres	Volts	Amper	Watts	Totals
3 PM	1165	10	14.5	81	
4	1165	10	14.5	80	15
5	1165	10	15	80	30
6	1165	10	15	80	45
7	1165	10	15	80	60
8	1165	10	15	80	75
9	1165	10	15	80	90
10	1165	10	14.5	80	104
11	1165	10	14.5	80	119
12	1165	10	14.5	80	133
1 PM	1165	10	14.5	80	148
2 PM	1165	10	14.5	80	162
3 PM	1165	10	14.5	80	177
4 PM	1165	10	15	83	192
5 PM	1165	10	15	83	207
6 PM	1165	10	15	83	222
7 PM	1165	10	16	85	238
8 PM	1165	10	17	85	255
9 PM	1165	10	17	85	272
10 PM	1165	10	16	83	289
11 PM	1165	10	17	83	305
12 AM	1165	10	16.5	85	322
1 AM	1165	10	16.5	85	338
2 AM	1165	10	16.5	85	355

#6 Bath

8 seise.

Serep. disc, ande

July 1, 20.

Date	Sp. Sn	Volts	Amper	Temp	Total	ssr
3-04	1165	10	16.5	85	371	
4-	1165	10	16.5	85	388	
5-	1165	10	16.5	84	404	
6-	1165	10	16	84	420	
7-	1165	10	16	82	436	
8-	1165	10	16	82	452	
10-	1165	10	16	82	468	
11-	1165	10	16	82	484	
12-	1165	10	16	82	500	

July 2, 20

1-04	1165	10	16.5	81	516	
2-	1165	10	16	81	532	
3-	1165	10	16	81	548	
4-	1165	10	16	81	564	
5-	1165	10	16	81	580	
6-	1160	10	16	81	596	
7-	1160	10	16	81	612	
8-	1160	16	16	81	628	
9-						
10-						

Self

Req strap - feed wrap -

Solid rubber holes drilled
Bent to left forming an
Arch

No 6 Belt 1st Disc in

JULY 3, 30	Sh	Volts	Amps	Temp	Notes
PM					
11:00	1165	9-5	14-5	86	
12:00	1165	9-5	14-5	80	14
AM	JULY 4th				
1:00	1165	9-5	14-5	80	29
2:00	1165	9-5	14-5	86	43
3:00	1165	9-5	14-5	83	59
4:00	1165	9-5	15-5	83	73
5:00	1165	9-5	15-5	83	88
6:00	1165	9-5	15-5	83	103
7:00	1165	9-5	16	83	117
8:00	1165	9-5	14-5	84	133
9	1165	9-5	16	84	149
10	1165	9-5	16	84	165
11	1165	9-5	16	82	181
12:00	1165	9-5	15	82	196
PM	1165	9-5	16	82	212
1:00	1165	9-5	15	84	227
2:00	1165	9-5	15	83	242
3	1165	9-5	15	83	257
4	1165	9-5	14-5	83	271
5	1165	9-5	14-5	82	285
6	1165	9-5	14-5	82	299
7	1165	9-5	14-5	81	314
8	1165	9-5	14-5	81	328
9	1165	9-5	14-5	81	342
10	1165	9-5	14-5	81	342

Stopped 6:15
mins. had to
change belt

not a rubber

W 6 Bath 1st Line

JULY	PM	Slw	Volts	Imp	Temp	Total	
11.00	1165	9-5	14-5	81	357	not a note on	
12.00	1165	9-5	14-5	81	371		
1.00	1165	9-5	14-5	81	386		
2.00	1165	9-5	14-5	81	400		
3.00	1165	9-5	14	81	414		
4.00	1165	9-5	14	81	428		
5.00	1165	9-5	14	81	442		
6.00	1165	9-5	14	81	456		
7.00	1165	9-5	14	81	470		
8.00	1165	9-5	14	81	484		
9.00	1165	9-5	14	81	498	not a note on	
10.00	1165	9-5	14	81	512		
11.00	1165	9-5	14	81	526		
12.00	1165	9-5	14-5	81	541		
1.00	1165	9-5	14-5	81	555		
2.00	1165	9-5	14	81	569		
3.00	1165	9-5	14	81	583		
4.00	1165	9-5	14	81	597		
5.00	1165	9-5	14	81	611		
6.00	1165	9-5	14	81	625		
7.00	1165	9-5	14	81	639	not a note on	
8.00	1165	9-5	14	81	653		
9.00	1165	9-5	14-5	81	668		
10.00	1165	9-5	14	81	682		

Outside Caliper = .055
Inside " = .063

$$52 \overline{) 758} \begin{matrix} 14 \\ 52 \\ \hline 238 \\ 236 \\ \hline 2 \end{matrix}$$

Rin total to 750 Amps.
#6 Bath #1 disc.
After cleaning tanks free from
grease and oil.
Start July 3, 20. 11.P.M.
Finish " 5.20. 3.P.M.
Total Amps 750
hours 52
Averaged amp. 14.5

No 6 Bath 1st Disc

July 5	Spr	Watts	Amps	Temp	Total
7 AM	1165	9-5	15	81	691
11:00	1165	9-5	15	81	712
12:00	1165	9-5	15	81	727
1:00	1165	9-5	15	81	742
2:00	1165	9-5	15	81	56 1/2 Out
3:00	1165	9-5	14	81	52 hrs 758

Cleaned up .041
Original .055-.063

Don't in "edge" con-
wounded off.

Use number 1 1/2 R.P.M.

Steamer taken out at 9³⁰ AM
July 7, 20.

Added 500 general bath dope to
plating solution 11³⁰ AM July 7.

Bath, No 6 2. disc in

July 6th

P.M.	Spec.	Dolls	amp	Temp	Total
3-45	1165	9-5	14	80	
4-45	1165	9-5	14	83	14
5-45	1165	9-5	14	83	28
6-45	1165	9-5	15	84	43
7-45	1165	9-5	15	84	58
8-45	1165	9-5	14-5	84	72
9-45	1165	9-5	14-5	84	87
10-45	1165	9-5	15	84	102
11-45	1165	9-5	14-5	84	116
AM	July 7				
12-25	1165	9-5	14-5	84	131
1-45	1165	9-5	14-5	84	145
2-45	1165	9-5	14-5	84	160
3-45	1165	9-5	14-5	84	174
4-45	1165	9-5	14-5	84	189
5-45	1165	9-5	14-5	84	203
6-45	1165	9-5	14-5	84	218
7-45	1165	9-5	14-5	84	232
8-45	1165	9-5	14-5	85	247
9-45	1165	9-5	14-5	85	262
10-45	1165	9-5	14-5	85	277
11-45	1165	9-5	14	83	305
12-45	1165	9-5	14	82	319
1-45 PM	1165	9-5	14	83	333

$$32 \overline{) 459} \left(14.3 \right.$$

$$\begin{array}{r} 32 \\ 139 \\ 128 \\ \hline 110 \end{array}$$

#6 Bath

2nd disc in

July 7	Sp. No.	Water	Temp	Total
11:55	9.5	14	83	347
12:05	9.5	14	84	361
12:15	9.5	14	85	375
12:25	9.5	14	85	389
12:35	9.5	14	84	403
12:45	9.5	14	84	417
12:55	9.5	14	83	431
1:05	9.5	14	83	445
1:15	9.5	14	82	459
1:25	9.5	14	82	473
1:35	9.5	14	82	487
1:45	9.5	14	82	501
1:55	9.5	14	82	515

32 hrs

Taken out to make
room for #1 mi Plate
disc of July 7, 20.

Revolved 2 minutes in bath.
 Put in his bath dry.
 Hi plated disc. from #1 Mr. Bates
 sent to local amp house, then give
 to Mr. Edison to see if he can plate
 it if possible.
 no shinner in bath.

#6 Bath

3rd disc. in
 in plated disc from
 #1 Bath

Started July 7, 20 - 11 ¹⁴					
Date	Sp. No.	Voltage	Amp	Temp	Total
11 ¹⁸	1165	9.5	14	82	
13 ³⁵	1165	9.5	14	82	14
AM July 8					
7 ¹⁰	1165	9.5	14	82	28
7 ¹⁰	1165	9.5	13 $\frac{1}{2}$	82	41
7 ¹⁰	1165	9.5	13 $\frac{1}{2}$	82	55
7 ¹⁰	1165	9.5	13 $\frac{1}{2}$	82	68
7 ¹⁰	1165	9.5	13 $\frac{1}{2}$	82	82
7 ¹⁰	1165	9.5	13	82	95
7 ¹⁰	1165	9.5	13	82	108
7 ¹⁰	1165	9.5	13	82	121
7 ¹⁰	1165	9.5	13	80	134
7 ¹⁰	1165	9.5	13	80	147
7 ¹⁰	1165	9.5	13.5	82	160
7 ¹⁰	1165	9.5	13.5	82	174
7 ¹⁰	1165	9.5	13	80	187
7 ¹⁰	1165	9.5	13	80	200
7 ¹⁰	1165	9.5	13	80	213
7 ¹⁰	1165	9.5	13	80	226
7 ¹⁰	1165	9.5	13	80	239
7 ¹⁰	1165	9.5	13	81	252
7 ¹⁰	1165	9.5	13	80	265
7 ¹⁰	1165	9.5	13	80	278
7 ¹⁰	1165	9.5	13	80	291
7 ¹⁰	1165	9.5	13	80	304

Added 1000 gms bath dope to
copper plate sol. at 11 A.M. July 9

$$41 \overline{) 540} \begin{matrix} 13.2 \\ 130 \\ 120 \\ \hline 100 \end{matrix}$$

Start July 7, 20. - 11:45
Finish " 9 " - 3:30
Total Amps 540
" hours 41
Average " 13.2

6th Bath 9th day in
re-plated zinc from 9th

JULY 8 PM	Volts	Volts	Amps	Amps	Total
11:10	11.65	9.5	12.5	80	316
12:10	11.65	9.5	12.5	80	329
1:10	11.65	9.5	12.5	80	341
2:10	11.65	9.5	13	80	354
3:10	11.65	9.5	13	80	367
4:10	11.65	9.5	13	80	380
5:10	11.65	9.5	13	80	393
6:10	11.65	9.5	13.5	80	407
7:10	11.65	9.5	13.5	80	420
8:10	11.65	9.5	13	80	433
9:10	11.65	9.5	13.5	78	447
10:10	11.65	9.5	14	79	461
11:10	11.65	9.5	14	80	475
12:10	11.65	9.5	14.5	80	489
1:10	11.65	9.5	14.5	82	503
2:10	11.65	9.5	14.5	81	518
3:10	11.65	9.5	14.5	81	533
4:30	11.65	9.5	14.5	81	540
Total 41 hrs					540

Added anode
scraps

Ant

Copper disc. 8-4 Female
 Run 2 minutes in bath no current
 then run to 40 Amp hrs.

One nickel washed well.
 rinsed with distilled water
 close switch before putting in
 then put in and put belt on as
 quick as possible
 Run to 600 Amp. hours.

#6 Bath Copper Plate

Time	Volts	Amps	Temp	Total
July 9, 20 11:15 PM	11.65	9.5	13.	80
12 11.65	9.5	13	80	13
1 11.65	9.5	13.5	80	26
2 11.65	9.5	13.5	80	40
3 11.65	9.5	13.5	80	53
4 11.65	9.5	13.5	80	67
5 11.65	9.5	13.5	80	80
6 11.65	9.5	13.5	80	94
7 11.65	9.5	13.5	80	107
8 11.65	9.5	13.5	80	121
9 11.65	9.5	13.	80	134
10 11.65	9.5	13.5	80	147
11 11.65	9.5	13.5	80	161
12 11.65	9.5	13.5	80	175
1 PM 11.65	9.5	13.5	80	188
2 11.65	9.5	13.5	80	202
3 11.65	9.5	13.5	80	215
4 11.65	9.5	14	80	229
5 11.65	9.5	14	80	243
6 11.65	9.5	14	80	257
7 11.65	9.5	14	80	271
8 11.65	9.5	14	80	285
9 11.65	9.5	14	80	299
10 11.65	9.5	13.5	80	312

Take out
 when 600 Amp
 hours and
 wash & put
 on rack

$$46 \overline{) 604} \quad (13.1) \\ \underline{46} \\ 144 \\ \underline{138} \\ 60$$

10:00 AM Put in more scrap Pines

Batt 956

JULY	Volts	Temp	Temp	Temp
PM	Volts	Temp	Temp	Temp
11:45	116.5	9-5	13	80
12:15	116.5	9-5	13	80
1:45	116.5	9-5	13	80
2:15	116.5	9-5	13	80
3:15	116.5	9-5	13	80
4:15	116.5	9-5	13	80
5:15	116.5	9-5	13	80
6:15	116.5	9-5	13	80
7:15	116.5	9-5	13	80
8:15	116.5	9-5	13	80
9:15	116.5	9-5	13	80
10:15	116.5	9-5	13	80
11:15	116.5	9-5	13	80
12:15	116.5	9-5	13	80
1:15	116.5	9-5	13	80
2:15	116.5	9-5	13	80
3:15	116.5	9-5	13	80
4:15	116.5	9-5	13	80
5:15	116.5	9-5	13	80
6:15	116.5	9-5	13	80
7:15	116.5	9-5	13	80
8:15	116.5	9-5	13	80
9:15	116.5	9-5	13	80
10:15	116.5	9-5	13	80
11:15	116.5	9-5	13	80
12:15	116.5	9-5	13	80
1:15	116.5	9-5	13	80
2:15	116.5	9-5	13	80
3:15	116.5	9-5	13	80
4:15	116.5	9-5	13	80
5:15	116.5	9-5	13	80
6:15	116.5	9-5	13	80
7:15	116.5	9-5	13	80
8:15	116.5	9-5	13	80
9:15	116.5	9-5	13	80

46 hours
Batt

No 2 Nickel Bath run for
2 minutes - before Current put on
192 Amp

No 6 Nickel taken from rack
dry then washed it with
high-purity water then rinsed
with distilled water and
put in Bath next with
Current on

Bath No 6

July	Time	Temp	Volts	Amps	Notes
11	PM	116.5	9.5	14	81
10:30		116.5	9.5	14	81
11:30		116.5	9.5	14	81
12:30		116.5	9.5	14	81
1:30		116.5	9.5	14	81
2:30		116.5	9.5	14	81
3:30		116.5	9.5	14	81
4:30		116.5	9.5	14	81
5:30		116.5	9.5	14	81
6:30		116.5	9.5	14	81
7:30		116.5	9.5	14	81
8:30		116.5	9.5	14	81
9:30		116.5	9.5	14	83
10:30		116.5	9.5	14	82
11:30		116.5	9.5	14	82
12:30		116.5	9.5	15	80
1:30		116.5	9.5	15	80
2:30		116.5	9.5	16	80
3:30		117.0	9.5	15	80
4:30		116.5	9.5	15.5	80
5:30		116.5	9.5	16	80
6:30		116.5	9.5	16	80
7:30		116.5	9.5	15.5	80
8:30		116.5	9.5	15.5	80
9:30		116.5	9.5	15	81

#26 Bath.

Time	Sp. op	Volt	Amp	Temp	Total
10:20	116.5	9.5	15.5	83	345
11:30	116.5	9.5	15.5	83	361
12:30	116.5	9.5	15.5	83	1376
1:20	116.5	9.5	15.5	81	372
2:10	116.5	9.5	15.5	81	417
3:00	116.5	9.5	15.5	81	423
4:30	116.5	9.5	15.5	81	438
5:30	116.5	9.5	15.5	81	454
6:30	116.5	9.5	15.5	81	469
7:30	116.5	9.5	14.5	82	478
8:30	116.5	9.5	15	82	523
10:30	116.5	9.5	14.5	82	528
11:30	116.5	9.5	15	83	543
12:30	116.5	9.5	15	83	558
1:30	116.5	9.5	15.5	85	573
2:30	116.5	9.5	15.5	85	589
3:30	116.5	9.5	14.5	84	603
4:30	116.5	9.5	15	85	618
5:30	116.5	9.5	15	80	633
6:30	116.5	9.5	15	80	648
7:30	116.5	9.5	14.5	80	663
8:30	116.5	9.5	14.5	85	677
9:30	116.5	9.5	14.5	84	692

$$52 \overline{) 749} \quad (14.4$$

$$\begin{array}{r} 52 \times \\ \underline{208} \\ 241 \end{array}$$

Start
Finish

• Total Amps = 749

" hours = 52

Average Amps 14.4

6 Bath

Time	Temp	Volts	Amps	Temp	Total
July 3 10:20	116.5	9.5	14.5	83	706
11:30	116.5	9.5	14.5	83	721
12:30	116.5	9.5	14	83	735
1:30	116.5	9.5	14	83	749
July 4	116.5	9.5	14	83	749

Out

Put in dry in Bath.
 1070 mi bath, 2 min revolved
 then current, washed commin
 water in whirler, rinse distilled water

Put in wet in Copper
 full current on.
 Disc. dripping with water.

#6 Bath

Started July 14 @ 12³⁰ noon.

Time	Sp. Gr.	Volts	Imps	Imps	Steel
12 ³⁰	1165	9.5	13.5	80	
1.30	1165	9.5	13.5	80	27
2.30	1165	9.5	14	85	41
3.30	1165	9.5	14.5	87	55
4.30	1165	9.5	14.5	85	70
5.30	1165	9.5	14	85	84
6.30	1165	9.5	14	85	98
7.30	1165	9.5	14.5	85	112
8.30	1165	9.5	14.5	85	127
9.30	1165	9.5	14.5	85	141
10.30	1165	9.5	14.5	83	156
11.30	1165	9.5	14.5	83	170
12.30	1165	9.5	14.5	83	185
AM	July	7.5	20		
1.30	1165	9.5	14.5	83	194
2.30	1165	9.5	14.5	83	204
3.30	1165	9.5	14.5	83	215
4.30	1165	9.5	14.5	81	228
5.30	1165	9.5	14.5	81	257
6.30	1165	9.5	14.5	81	271
7.30	1165	9.5	14.5	81	285
8.30	1165	9.5	14.5	81	300
9.30	1175	9.5	14.5	81	314
10.30	1165	9.5	15	81	329
11.30	1165	9.5	15	80	344

Transferred from
 #1 in Bath
 July 15²⁰.

6 Bath

July 15, 20	V _{th}	A _{mp}	I _{amp}	Total	394
12:30	1165	9.5	15	80	359
1:30	1165	9.5	15	80	374
2:30	1165	9.5	15	80	389
3:30	1165	9.5	14.5	80	404
4:30	1165	9.5	14.5	80	419
5:30	1165	9.5	15	80	434
6:30	1165	9.5	15	83	449
7:30	1165	9.5	15.5	92	464
8:30	1165	9.5	17	92	481
9:30	1165	9.5	17	92	498
10:30	1165	9.5	17.5	92	515
11:30	1165	9.5	17.5	92	533
12:30	1165	9.5	17.5	92	550
July 16, 20	1165	9.5	14	90	567
1:30	1165	9.5	14	90	584
2:30	1165	9.5	14	90	601
3:30	1165	9.5	14	90	618
4:30	1165	9.5	14	90	635
5:30	1165	9.5	14.5	90	652
6:30	1165	9.5	14.5	90	669
7:30	1165	9.5	14.5	90	686
8:30	1165	9.5	14.5	90	703
9:30	1170	9.5	16	87	700
10:30	1165	9.5	17	90	717
11:30	1165	9.5	17	91	734

Transferred from
120 Bath
July 18, 20
107 amps.

$$\begin{array}{r}
 49 \overline{) 767} \quad 15.6 \\
 \underline{49} \\
 277 \\
 \underline{275} \\
 20 \\
 \underline{19} \\
 1
 \end{array}$$

Total Amps = 767
 " Hours = 49
 Average Amps = 15.6

#6 Both

Line	Sp. Gr.	Wtts	Amps	Temp	Total
1230	1165	8.5	165	98	750
130	1165	9	17	89	79
					<u>829</u>

Eggs for knots & trees
in flat female

Considerably rounded edge line
put in dry
Revolve 2 minutes, then full
current on
Ran for .05 Amps in bath
Showed blisters after in plate
1 hr. 30 min.

Put in wet. Copper bath
2 Amps for 2 min, then
full current on

#6 Bath

Started July, 16, 20 @

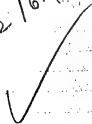
11-PM.

Time	Sp. No.	Pot.	Temp.	Current	Total
11 PM	1165	9.5	14.5	89	
12	1165	9.5	16.	89	16
			July 17	20.	
1 PM	1165	9.5	16.5	90	32
2	1165	9.5	17.5	90	50
3	1165	9.5	17.5	90	67
4	1165	9.5	17.5	90	85
5	1165	9.5	17.5	90	102
6	1165	9.5	17.5	90	120
7	1165	9.5	17.	90	137
8	1165	9.5	17.	93	154
9	1165	9.5	17.	93	171
10	1165	9.5	16.	93	187
11	1165	9.5	16	93	203
12	1165	9.5	17	90	220
1	1170	9.5	15	90	235
2	1170	9.5	16	95	251
3	1170	9.5	16	95	267
4	1170	9.5	16	95	283
5	1170	9.5	16.5	95	299
6	1170	9.5	16.5	93	316
7	1170	9.5	16.5	90	332
8	1170	9.5	16.5	90	349
9	1170	9.5	16	80	365
10	1170	9.5	16	80	381

Transferred from
#1 to bath
2 Blisters
on disc,
100 amp in plate
bubbles started

47/775 (16.4)
 305
 289
 288
 42

Total Amps 775
 " hours 47
 Average Amps 16.4



6 Bath

Time	Sec	Volts	Amps	Watts	Total
11:00	1170	9-5	16	89	397
12:00	1170	9-5	16	92	413
AM	July 18				
1:00	1170	9-5	17	92	430
2:00	1170	9-5	17	92	447
3:00	1170	9-5	17	92	464
4:00	1170	9-5	16	92	480
5:00	1170	9-5	16	92	496
6:00	1170	9-5	16 1/2	90	512
7:00	1170	9-5	16 1/2	90	529
8:00	1170	9-5	16	90	545
9:00	1170	9-5	16	90	561
10	1170	9-5	16	90	577
11	1170	9-5	16	90	593
12	1170	9-5	16	90	609
1:00	1170	9-5	16-5	92	625
2:00	1170	9-5	16-5	92	642
3	1170	9-5	16-5	92	658
4	1170	9-5	17	94	675
5	1170	9-5	17	94	692
6	1170	9-5	17	94	709
7	1170	9-5	17	94	726
8	1170	9-5	17	94	743
9	1170	9-5	16-5	94	759
10	1170	9-5	16-5	90	775 Out

Transferred from #2 to Bath July 8, 20
at 12 PM. 97 Amps in Bath
No 2 Nickel put in No 6 Bath

~~2 Comp~~

Joe started ~~down~~ down after
put in copper bath

after stripping try to see if
dope put in bath effects it

No 6 Bath

started July 18, 20

Time	Sh	Volta	Amp	Temp	Total
PM	1140	9-5	15	90	
AM		July	19-		
6:00	1175	9-5	15	90	15
7:00	1170	7.5	15	90	30
8:00		7.5	15	90	45
9:00		7.5	15	90	60
10:00		7.5	15	90	75
11:00		7.5	15	90	90
12:00	1170	7.5	15	90	105
1:00	1170	7.5	15	90	120
2:00	1170	7.5	15	90	135
3:00	1170	7.5	15	90	150
4:00	1170	7.5	15	90	165
5:00	1170	7.5	15	90	180
6:00	1170	7.5	15	90	195
7:00	1170	7.5	15	90	210
8:00	1170	7.5	15	90	225
9:00	1170	7.5	15	90	240
10:00	1170	7.5	15	90	255
11:00	1170	7.5	15	90	270
12:00	1170	7.5	15	90	285
1:00	1170	7.5	15	90	300
2:00	1170	7.5	15	90	315
3:00	1170	7.5	15	90	330
4:00	1170	7.5	15	90	345
5:00	1170	7.5	15	90	360
6:00	1170	7.5	15	90	375
7:00	1170	7.5	15	90	390
8:00	1170	7.5	15	90	405
9:00	1170	7.5	15	90	420
10:00	1170	7.5	15	90	435
11:00	1170	7.5	15	90	450
12:00	1170	7.5	15	90	465

July 18

Three started
added at 12 PM.
Sunday, July 18

20 cc of Copper Dope
watch when
it once gets
start.
after stripping
try
to see if it
put in Bath
effects it

$$39 \left| \begin{array}{r} 691 \\ 39 \times 17.7 \\ \hline 381 \\ 273 \\ \hline 280 \end{array} \right.$$

Total Amps 691
11.2 hours 39
Average Amps 17.7

#6 Bath

Time	Sp. Sol.	Volts	Amps	Temp	Stat.	430
12	116.5	9.5	16	92	446	
1	116.5	9.5	16	92	446	
2	116.5	9.5	16	91	462	
3	116.5	9.5	16	91	478	
4	116.5	9.5	16	90	473	
5	116.5	9.5	16	90	519	
6	116.5	9.5	16	90	528	
7	116.5	9.5	16	90	545	
8	116.5	9.5	16	90	581	
9	116.5	9.5	16	90	578	
10	116.5	9.5	16	90	594	
11	116.5	9.5	16	90	610	
12	116.5	9.5	16	90	626	
1 PM	116.5	9.5	16	95	642	
2-	116.5	9.5	16	93	659	
3-	116.5	9.5	16	92	675	
4-	116.5	9.5	15.5	89	691	
5-						
6-						

Out

Mac's Reports

July, 26, '20.

Suspected at Control Room

348 Suspected

2 blisters

6 Loose nickel

Memo from Jack Mac. follow these up for
as you are able to do so thru
the lathe room & see if they
find any loose in. also if any
centers get loose.

July 28 Follow up report
from Taylor's, Memo.

348 special O working moulds
records.

Rejected in Lathe Room

Rec'd 348

- 3 loose in center

- 12 " " Edges

1 Blisters

77 Rejected

16

Memor. July 29, 20.
McM. Rec'd in Control Room from Bath.
7 A.M. July 27 to 7 A.M. July 28, 20.
228 Working Moulds.
Discarded at Control Room
Blister = 25
Loose Stripping = 2

Lathe Room Discards
Loose Stripp Edge = 25
" Nickel Cutter = 12
Blister = 6

Total Rj = 70.

30 $\frac{70}{10}$ Rejects

Memor. Signed H.J. Taylor.

132) 4588 45%
5%

24 1/2 Cent
Bedg for Cent

24 Bedg put in 133 = 13.5% Rej.
22A " " " 37 = 5.4 " "
22 " " " 71 = 5.6 " "

Discards from - July 29, 20				
Bedg	name	Number of discards	Discards	% discard
24	Lullen	83	14	17%
	Kannally	25	2	8%
	Brenn	25	2	8%
		133		
22A	Watson	4		0
	Baker	9		0
	Smith	24	2	8%
		37		
22	Largy	43		0
	Hebb	17	1	6%
	Leum	11	3	27%
		71	24	
Total		241		
From Press -				
Rough plate	2-4			
Plant	9-18-17		24	
Pitted	4-7		24	
Total			48	

Bldg Percent

122 = 12.2% Rij
 22A " " 39 = 3.4%
 22 " " 63 = 4.4%

Discards from July 30, 20.

Bldg	Operator	No of Mounds	Distrs	Conch	Exchard
24	Gillen	54	7	4	20%
"	Kennedy	56		2	4%
"	Brennan	18	1	1	11%
22 A	Watson	18	-	-	✓
"	Calder	4	-	-	✓
"	Smith	7	1	-	14%
22	Perry	35	2	-	5 1/2%
"	Herbst	7	-	-	✓
"	Klamm	21	1	-	4 1/2%
Total Mounds		214	12	7	
			Rij. 19		
			Total Project 8 8 1/2%		

Bldg Per cent

$$\begin{array}{rcl} 24 \text{ Bldg Pct in } 86 & = & 20.9\% \text{ Ref.} \\ 23B & & 64 = 10.9\% \\ 22 & & 100 = 9.1\% \\ & & \hline & & 250 \end{array}$$

Discards July 23 120.

July 20	Operator Name	Moulds per man	Blister	Base riv.	Factor	Rej. to Men
	Fuller	45	9	-	4	29.8
	Baker	23	1	1	1	13
	Smith	20	-	1	2	15
	Herr	22	3	-	-	13
	Glenn	55	4	-	-	7
	Long	23	1	1	-	8
	Walters	21	-	1	-	5
	Kennedy	35	5	-	-	14
	Prunnett	6	-	-	-	0
			250	23	4	7

288 Work moulds inspected in Control room.
Note 4 moulds sent through account of
either being stain, was first rejected
at Control Room.

This day 13% rejects

Disc. Discard. Aug. 1, 20.

24	OPERATOR NAME	MOULDS PERMAN	BLISTER	LOSSE NICKEL	LATHE REJECT	Per Cent Accepted
	Kullen	36	14	-	-	38%
	Kennelly	51	2	-	-	4%
	Burnham	34	2	-	-	6%
		<u>121</u>	<u>18</u>			
22H	Aratow	38	-	-	-	0
	Baker	8	-	-	-	0
	Smith	41	3	-	-	7
		<u>187</u>	<u>3</u>			
22	Engel	38	2	-	-	5
	Holt	23	1	-	-	4
	Burnham	46	2	-	-	4
		<u>107</u>	<u>5</u>			

8.2%

Total moulds 315

" discard 26

Put in 24 Bldg 121 discs, 15% discard.

" " 22B 187 " 17%

" " 22 " 107 " 46%

Aug 2

Total moulds 265

" discards 28 = 10.7% rej

Total put in 24 Bldg 131 = 9.9% ~~discards~~

22B 85 = 11.1% "

22i 49 = 10.2% "

% Rej Total 10%

Less Discards Aug 2nd 1920

	MOULDS PER MAN	BLISTER	LOOSE NICKEL	LATHE REV.	PER CENT REJECT
24 Carpenter	42	4	-	1	11%
Callen	54	4	-	1	9%
Kennelley	35	2	-	1	8%
Brennan	131	13	-	-	-
22B Lacey	38	4	-	-	10%
Heck	12	2	-	-	16%
22i Leun	35	3	-	1	11%
	85	10	-	-	-
22 Baker	15	1	-	1	13%
Smith	23	1	-	-	4%
Watson	11	0	-	2	18%
	49	5	-	7	-
	265	28	10%	-	-
	265	15%	-	-	-
		10%	-	-	-
		10%	-	-	-

This day
Rejects

General average 3 days - 415
 24 100% disc'd 21.3% put in 265
 22 " " 31.1 " " 234
 22 " " 29.4 " " 234
 Reported Aug 6, 20.

Aug 3, 20.

Total moulds 234
 " & discarded 23
 " & Rejected 9.0%

Total put in 24 Bldg 169 = 9.4% also circle
 " " 22B " 24 = 3.4%
 " " 22 " 36 = 16.6%

Disc Records Aug 3, 1920

Operator	Moulds per min.	Blister	Discs rejected	Rej'd
Bellevue	60	3	2	8.3%
Kennelly	1	1	1	100%
Brennan	108	8	2	9.2%
	169	16		
Long	15	1	1	66%
Helm	12	1	1	0
Stumm	2	1	1	0
	29		1	
Baker	10	1	1	10.1%
Smith	19	5	1	26%
Nelson	7	1	1	0
Total	36	6		
2 discarded (?)				
	234	230	9%	
		210	9%	
		194		
Total loss		9.1%		
Total disc		234		

NAME	F. No.	REJECTED.		LOOSE NICKEL	LOOSE CENTER	DISCARD PER CENT
		CONTROL	LATHE			
Allen	33	2	4			18.1 %
Armstrong	50	5	3			16. "
Brown	27	1				3.7 "
24	170	15				
DeLong	10	1				10. %
Helf	52	7	2			17.3 "
Johnson	—	—	—			—
230	62	11				
Quinn	33	—	8			9. %
Smith	42	6	1			16.6 "
Watson	—	—	—			—
21	75	70				
Total		Discs = 247				
"		Rejects = 35				
%		Loss = 14.5 %				

Bledge Per cent
Total put in 24 Bldg. 154 = 16.7%
22 " 127 = 10. " "
22B " 36 = 3. " "

OPERS NAME		TOTAL PCT	REJECTED		DATE
			LOOSE	LATHE	
NAME	PCT IN	DISCARD	PER CENT		
Allen	32	7	31		31.7%
Wendell	57	7			8.7%
Wendell	65	8	3		16.9%
	154	20	6		
Wendell	50	3	1		8.7%
Wendell	29	3	3		2.1%
Wendell	48	2	1		6.2%
	127	8	5		
Wendell	25	5	3		32.7%
Wendell	6	1	1		33.7%
Wendell	5	1	1		40.7%
	36	7	5		
Total Discard =			317		
Rejects =			51		
Loss =			16.7%		

Bldg Per Cent
 Total put in 24 Bldg 134 = 14.1 % Ref.
 22 " 74 = 12.1 " "
 22B " 70 = 17.1 " "

OPER- NAME	TOTAL IN	REJECTED.				ACCEPT OK.	DISCARD PER CENT
		CONTROL	LATHE				
NAME	PUT IN	BUSTER	LOOSE NICKEL	LOOSE CENTER			
Allen	26	5	1				23%
Smully	55	2	1				5.4 "
Smully	53	6	1				13.2 "
	134	16	3				
Wagner	16	—	—				0.
Helly	20	2	1				15. "
Wagner	38	6	—				15.7 "
	74	8	1				
Wagner	16	2	1				12.5 "
Smith	17	2	2				23.5 "
Wagner	37	4	1				13.5 "
	70	8	4				
Total Discard = 278							
% Rejects = 144							
% Pass = 15.1							
Remarks - not marked against men Rejects							
1 loose 1 too thin 1 bad center							

DATE
 AUG-6-

Bldg Per Cent

Total Pnt L	24 bldg	164 = 152%	Rej
"	22 "	46 = 81%	"
"	22 B "	88 = 159%	"

[illegible]

Bldg Per Cent.
 Total put in 24 bldg 109 = 16.5% Reject
 22 " 65 = 16.9 " "
 22 B 52 = 23 " "

NAME	TOTAL PUT IN	REJECTED CONTROL LATHE			DATE	DISCARD PER CENT
		BLATE	LOOSE NICKEL	LOOSE CENTER		
Allen	43	8	1		AUG 8	20.7
Waller	24	3	—			12.5
Waller	22	7	4			15.2
	<u>139</u>	<u>18</u>	<u>5</u>			
Waller	58	7	3			17.2
Perkins	7	—	—			14.2
Waller	<u>65</u>	<u>8</u>	<u>3</u>			—
Baker	—	—	—			—
Smith	39	9	7			25.6
Tilton	13	2	—			15.3
	<u>52</u>	<u>11</u>	<u>1</u>			

Total Area = 256
 " Reject = 47
 " Loss = 18.3%
 Remarks, stuck —

Bldg Per Cent.
 Total put in 4 Bldg. 179 = 11.1% Reject.
 22 " 104 = 10.6 " "
 22B " 53 = 9.4 " "

NAME	PUT IN BATH	REJECTS				DATE
		CONTROL	LATHE			
		BLISTER	LOOSE NICKEL	LOOSE NICKEL	LOOSE CENTER	% REJECTED
Callen	48	10		2		25.76
Kennell	36	2		2		11.1 "
Spenn	95	1		4		5.2 "
	179	13		8		
Torgy	47	2		—		4.2 "
Hob	44	4		1		11.2 "
Sturman	13	1		3		30.7 "
	104	7		4		
Baker	11	1		—		9. "
Smith	12	2		—		16.6 "
Watson	30	2		—		6.6 "
	53	5				

Total put in. 336
 " Rejects. 37
 " Loss per play 11.76

Bldg Per Cent
 Total put in by Bldg 95 = 25.2 % Reject
 22 " 49 = 10.2 " "
 22B " 37 = 18.9 " "

W. F. 4. 1962
 22.4
 20.5

NAME	PUT IN BATH	REJECTS				DATE Aug 10
		CONTROL	LATHE	LOOSE CENTER	LOOSE NICKEL	
Callen	27	10	4			57.8
Kennelly	26	2	2			15.3
Grenada	42	3	3			14.2
	95	15	9			
Long	12	—	—			—
Holt	24	1	2			8.3
Werner	13	1	1			15.7
	49	2	3			
Palmer	—	—	—			—
Smith	3	—	—			—
Watson	34	7	—			20.5
	37	7				

Total put in 181
 " Rejects 37
 " Less play 26.4
 Remember 1 assembled

Bldg for Cont.
 Total put in 24 Bldg 123 = 17.8% Reject
 22 " 100 = 13. " "
 22 " 6 = 0 " "

NAME	PUT IN BATH	REJECTS				DATE
		CONTROL	LATHE			
			BLINDS PIECES	LOOSE PIECES	LOOSE PIECES	
Callen	45	8	7			
Remilly	58	4				
Grinnard	20	3	7			
	123	15				
Larry	35	1	1			
Hobb						
Wernum	65	11				
	100	12	1			
Baker						
Smith						
Watson	6					
	6					

Here, his room filled transference work to 25 Bldg
 Smith put in master's material & water & working pieces.
 Unless " " " " " " " "

Total put in 229
 " Rejects 35
 % Loss piling 15.2%

Bldg Per Cent.
 Part in 24 Bldg 223 = 139.7 Ry.
 223 " 133 = 9.7 " "
 22B " 14 = 7.1 " "

TIME	POT IN BATH	REJECTS	
		CONTROL	LA THE
		Blind	Good
Callers	58	16	3
in wall	68	2	2
grange	97	4	4
	223	22	9
Long	50	3	-
Held	25	-	-
down	51	2	1
	133	12	1
Water			
with	14	-	1
	14		1

Total put in 370
 Rejected 45
 % Loss per day 12.17

Aug 22

Bldg per Cent
 Total put in 24 Bldg 144 = 25.9% Rej
 22 " 31 = 12.9 "
 22.8 " 74 = 25.6 "

NAME	PUT IN BATH	REJECTS				DATE	% REJECT
		CONTROL	LATHE	BLISTER	LOSS PER CENTER		
Fullen	26	11	5	3		Aug 13	73.9%
Kennelly	58	3	-	2			86 "
Connell	29	-	2	1			15. - "
	109	21	6				
Long	20	-	1	1			10. - "
Herrell	31	4	3	5			38.7 "
Wagner	23	1	-	3			21.7 "
	74	10	9				
Baker	16	1	1	-			12.5
Smith	15	1	1	1			40. -
Prater	31	3	1				
Boyd							

Total put in 209
 " Reject 50
 % " Loss per day. 23.9%

B.C.G. Plan Control
 Put in 24 beds 113 = 33.6 % reject
 22 " 100 = 27.7 %
 22 " 40 = 25.0 %

NAME	PUT IN BATH	REJECTS			DATE
		CONTROL	LATHE		
		BWTR	LOOSE N. E. R. L.	LOOSE C. B. T. R.	% REJECT
Cullen Kennedy Cremm	51	19		6	49.2
	29	1		4	17.2
	33	8		—	24.2
	113	28			
Lenny Horn Kamm	50	3		4	14.0
	24	5		3	33.3
	26	11		1	46.1
	100	27			
Eckert Smith Kraton	33	4		4	24.2
	3	—		2	66.6
	8	1		—	12.5
	44	11			

Total put in 257
 Reject 76
 % " Loss per day 29.5%

NAME	POT IN BATH	REJECTS			DATE
		CONTROL	LATHE		
		BUSTS	LOOSE N. CR # L	LOOSE W. CR # L	% REJECT
Cullen Kennedy Cammell	63	20	7		42.8%
	42	3	2		11.9 "
	80	8	9		21.2 "
	185		49	24 B	26.4%
Lange Horn Kammell	23	2	3		21.7 %
	35	11	—		31.4 "
	10	3	—		30. — "
	68		19	22 B	27.9%
Baker/ Smith Watson	5	—	—		0. "
	20	5	—		25. "
	20	4	—		20. "
	45		9		22 = 20%

Total put in 298
 Report 77
 % " Less per day. 25.8

NAME	PART BATH	RESULTS				DATE
		CONTROL		LATHE		
		DIST	LOSS IN CR&L	LOSS IN CR&L	% NETELY	
Bullen	40	11		4	35.7%	Aug 16, 20
Kennelly	37	10		2	32.4"	
Bennett	32	1		4	12.4"	
	109		32		24 Body 29.3%	
Largy	82	8		3	13.4%	
Herts	17	3		4	41.1	
Almond	41	7		7	34.2"	
	140		32		22 Body 22.8%	
Baker	—	—			Part in M-S 24.6%	
Smith	37	10		8	48.6	
Watson	—				" " " "	
	37		18		22 Body 48.6	

Total part in 276
 Reput 84
 % " Ins per day. 30.4%

NAME	PUT IN BATH	REJECTS				DATE Aug 18, 20
		CONTROL		LATHE		
		BLISTER	LOSS NICKEL	LOSS CENTER	% Reject	
Cullen Connelly Bennett	66	11		2	19.8 %	
	82	14		5	23.1 "	
	87	13		6	21.8	
	235		51		24.2 avg 21.7 %	
Long Holt Llunn	26	4		4	30.7 %	
	24	8		5	54.1 "	
	8	1		0	22.5 "	
	58		19		22.8 avg 32.7 %	
Baker Smith Katon	—	—		—	—	
	2	—		—	0.	
	3	1		—	33.3 %	
	5		1		22.8 avg 20.7 %	
Total put in 298						
" Reject 71						
% " Losper day 23.8 %						

NAME	PUT IN BATH	REJECTED			
		CONTROL	LATHE	LOOSE CENTER	
Calkin Kendall Pronker	37	5	7		
	40	5	1		
	40	4			
	117		19		
Lugy Horn Kenny	6	1			
	38	5			
	11	1			
	55		7		
Calkin Smith Kenny	—	—	—		
	43	5	—		
	—	—	—		
	43	5			

Aug. 19, 20.

90 Reject.

24.37

12.5"

12.5"

24 Body 16.22

16.67

13.1"

11.1"

13.122 B-12.7

0.2

11.6"

0

Reg 22 11.6"

Total Put in = 214

Reject = 31

Loss per day = 14.4%

NAME	PUT IN DATA	REJECTED		
		CONTROL	LATHE	LOOSE CONFER
Cullen Harley Brewster	35	BLATER 1	NICKEL 1	
	75	2	2	
	76	1	2	
	186		9	
Lugg Horn Hanna	54	1	1	
	47	4		
	58	1	1	
	159		8	
Baker Smith Watson	-	-	-	-
	1	-	-	-
	-	-	-	-
	46	-	-	-

Aug 20.

9% Reject.

5.5

5.5

3.9

24 Bldg 4.8%

3.7%

8.5

3.4

22 Bldg 5%

0

22 Bldg 0

Total Put in = 346

" Reject = 17

" Loss per day = 4.9%

NAME	PUT IN DATA	REJECTED			
		CONTROL	LATH		
		BLISTER	LOSS	HAIRCEL	LOOSE CENTER
Latham	17	—	—	—	—
Kendall	60	1	—	3	—
Chandler	8	2	—	—	—
	85	—	6	—	—
Long	60	3	—	3	—
Hall	22	2	—	2	—
Kenn	5	—	—	—	—
	87	—	8	—	—
Walker	48	1	2	—	—
Smith	—	—	—	—	—
Watson	—	—	—	—	—
	48	—	3	—	—

Total Put in = 220
 " Rejected = 17
 " Loss per day = 7.7%

Aug 21
 7. Rejected
 0.
 6.6%
 25. —
 41.6% 7.6
 10.7%
 9.9%
 0.
 31.6% 9.1
 6.2%
 22.6% 6.2

Aug 22

NAME	PUT IN BATH	NET FETTER				
		CONTACT LATH				
		SHINY	WAXED	GLASS		
Call...	20	1				7 Reject 5% 2.5"
Hand...	40	1				1.8"
Person...	106	1		1		
	166		4			24 Bldg = 2.4%
Long...	20	1				5% 0-
How...	28	-				0
When...	29	-				
	77		1			22 Bldg 1.2%
Relax...	20	-	-	-	-	0,
Print...	-	-	-	-	-	0
Other...	-	-	-	-	-	0
	20					22 Bldg 0.7

Total Put in = 263
 " Reject = 5
 " Loss per day = 1.9%

NAME	PUT BATH	REJECTED			
		CONTROL		LATHE	
		WATER	LOOSE NICKEL		
Belton	43	1	—		
Connelly	23				
Prunick	105	4	1		
Long	60	2	—		
Long	21	1	—		
Summ	6	—			
Baker	—	—	—	—	
Smith	—	—	—	—	
Stetson	—	—	—	—	
Total Put in					258
" Rejected					70
" Loss					

Aug 23
% Rejected

24 Bldg

22 B Bldg

22 Bldg

NAME	PUT IN BATH	REJECTED			
		CONTROL		LATHE	
		BUSTER	LOOSE	NICKEL	
Billion	42	1			
Kennedy	40	—			
Gunnels	109	1		1	
44 Bell					
Larry	44	—			
Holt	57	1			
Wann	25	—			
22B					
Sehn	—	—	—	—	—
Smith	—	—	—	—	—
Wann	—	—	—	—	—
22					

Aug. 24 28.
% Reject

Total Put in 317
Reject
% Lose 26.

NAME	PUT IN BATH	REJECTED			
		CONTROL		LATHE	
		BUSH	LOCK	HEAD	
Edlin	33	—	—		
Smiley	29	—	—		
Carroll	44	2	—		
22B	106				
Long	65	1			1
Holt	17	—	—		
Thorn	29	—	—		
22B	111				
Baker	—	—	—	—	—
Smith	30	—	—		
Hutton	27	2			
22	57				
Total					
"					
"					

Put in
Rej
Total

Aug 25

% Reject

%

NAME	PUT IN BATH	REFLECTED	
		CONTROL	LATHE
		BLISTER	LOOSE NICKS
Callen	70	—	—
Conely	28	—	—
Spencer	97	—	—
44Bdy			
Shay	44	Pinch	—
Holt	45	dent	—
Hunn	5	—	—
23B			
Baker	—	—	—
Smith	8	—	—
Johnson	7	—	—
22			
Total Put in 314			
" Re 70			
" Ls 70			

Aug. 26
% Reput

PUT DEFECTED
 IN CONTROL LANE
 BATH

58 1
 28
 46 3
 6

31
 27 1
 - - -
 22

17 -
 22 1
 22

Total 229
 10

DATE

Aug 28, 20

Allen	77	-	-
Smith	42	-	-
Johnson	91	-	-
24 Aug	-	-	-
	<u>210</u>	-	-

Aug	28	-	-
John	70	-	-
Johnson	-	-	-
22 Aug	-	-	-
	<u>98</u>	-	-

Aug	29	-	-
Smith	-	-	-
Johnson	27	-	-
2	-	-	-
	<u>56</u>	-	-

Total Paid in 36th
 " Repaid
 " 22

Aug 30

DATE

NAME	PUT IN BATH	REJECTED			
		CONTROL	LATHE		
		ALUMIN	LOOK NICKEL		
Miller	48	—	—		
Busch	47	—	—		
Smith	78	—	—		
4 Bldg					
Engy	47	—	—		
45	45	—	—		
Blumma	20	—	—		
22 B					
Calder	—	—	—	—	—
Smith	11	—	—		
atom	6				
22					
		Total put in		360.300	
		Reject		Hse	

Aug 31, 1947

NAME	PUT IN BATH	REJECTED			DATE
		CONTROL	LASTS		
		ALUMINUM	COPPER NICKEL	MISCELLANEOUS	
Belton	28	-	-	1	
Connelly	86	-	-	1	
Connelly	76	-	-	1	
Connelly	73	-	-	1	Keller
Connelly	25	-	-	1	
Connelly	39	-	-	1	
Connelly	22B	-	-	-	
Connelly	22	-	-	-	
Connelly	27	-	-	-	
Connelly	22	-	-	-	
Total Part in Reject					376
n					
n					

NAME	PUT IN BATH	REJECTED		DATE
		CONTROL	LOTTES	
		SUNNY	LOOSE NICKEL	
11/1	44	5		
11/2	20	1		
11/3	76	1		
11/4				
11/5				
11/6				
11/7				
11/8	18			
11/9	18			
11/10	62			
11/11				
11/12				
11/13				
11/14				
11/15				
11/16				
11/17				
11/18				
11/19				
11/20				
11/21				
11/22				

(113)

NAME	PUT IN BATH	REFLECTED		DATE
		CONTROL	LATHE	
		WINTER	LOSS & NICKEL	
Ellen	49	3 Buckles		Aug. 2
Annally	53	-		
Samuel	110	-		
Edy				
Aggy	30	-	-	
Will	36	-	-	
Sam	22	1 sent	-	
229				
Solomon	11	-	-	
Smith	-	-	-	
ation	37	-	-	
22				
Total Put in				348
" Rej				
" Loss				

[ITEM(S) FOUND IN BOOK]

Special Test of 50 Working Moulds
Spots

discards
0 Control
Room

1. Buckled
2. Loose Mould Room
3

5 Series of Darts Press

1 Buckled

1 Buckled & Rough Plating 40

7

10 discards

40 OK

846 - no control
10 discards

80% OK

50% plating

M. J. Taylor

[ITEM(S) FOUND IN BOOK]

Special Test 8/21/20
50 Working Moulds

discards ^{dept}
2 Buckled Control Room

3 Series Dents
2 Loose Moulds
1 Broken Centre Lathe Dept

5 Series Dents
1 Bitted Quies Room

74 Discards

36 OK Moulds

72 7/8 OK 74 1/2 plus

W J Taylor

Aug 22/20

50 Working Moulds

Discaids

2 Bent

Cottles
Rovm

2 Broken Cattle

1

Loose Holes

Laths

3

Series Dents

6

5 Series Dent

1

Rough x Catted

Press

6

12

36 OK

72 1/2 OK 80% plain

[ITEM(S) FOUND IN BOOK]

50 Working Moulds Tested ^{Aug 23/24}

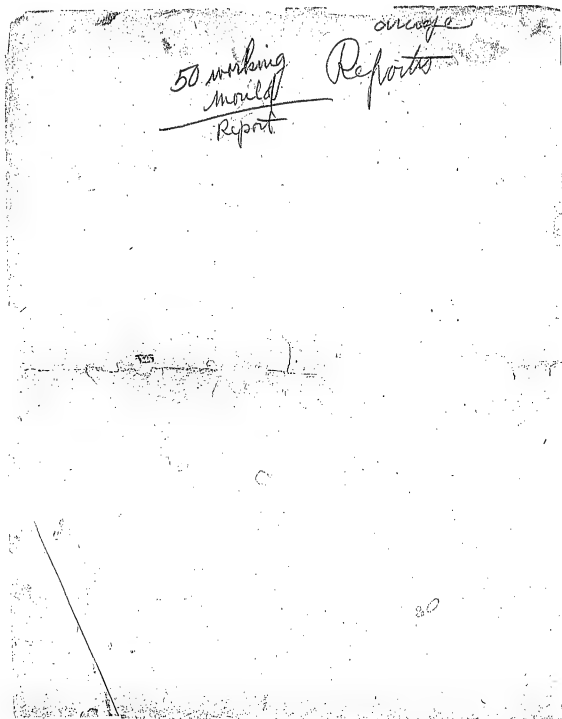
Discards
 3 Sheets Control Room
 3 Scratched
 2 Broken Centre Lathe
 2 Blisters Room

2 Series of joint Press

38 0.15 Moulds 76% OK - 816 plates

W. J. Taylor

[ITEM(S) FOUND IN BOOK]



[ITEM(S) FOUND IN BOOK]

50 Working Models Room Special

8/24/20

Discards
0 Control Room

7 Burkin Centre
2 Discards Lath Room
1 Corvair
1 Buckles

6-

50) 60 (12
50
10
88

2 Series of Dents Price
13

3.7 0.6

74% OK 88% plain

M. J. Taylor

[ITEM(S) FOUND IN BOOK]

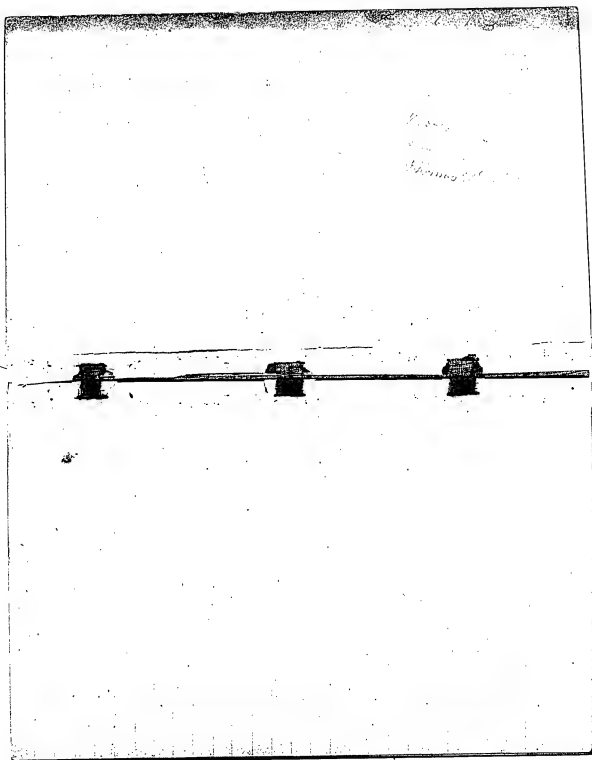
[illegible]

[ITEM(S) FOUND IN BOOK]

[illegible]

Notebook Series -- Notebooks by Edison and Other Experimenters
Disc Plating Experiments
Notebook, N-20-06-07.2

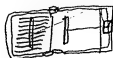
This notebook was used during June-July and December 1920 by Edison, Walter N. Archer, and W. J. Taylor. The entries pertain to the plating processes involved in the manufacture of disc records. The early entries by Edison focus on attempts to copperplate with anodes made from nickel-faced copper molds no longer needed for production. Following these entries are tabular reports of various molds plated in "Bath 3" in June and July with information on the date and time, specific gravity, volts, amps, clock temperature, and other conditions during plating. Notes, suggestions, and instructions by Edison are interspersed throughout the early tables. An additional page of instructions by Edison has been inserted into the book. The entries for December describe unsuccessful efforts to plate a working mold from an actual record. The front cover is labeled "Baths Disc" and is marked "D[3]." The pages are unnumbered. Approximately 80 pages have been used.



Take out No 2
after 36
826 amp hours
which is about 23 amps
for 36 hours

No 3 Bath

#A. Anodes



3 BATH

A anodes

6 disc all cut in
1/4 sections

1 Disc 46 hours 23 average amps
9.5 Volts 1170 Spec Grav. 80 Crock Temp
already has been plated out +
removed

2nd Disc put in June

In 12.25 PM 7th June

	Volts	amp	Spec Grav	Crock
9 1/2	23	1170	80	
9 3/4	23	1170	85	
9 1/4	23 1/2	1170	82	
9 1/2	23	1170	81	
9 1/4	23	1170	82	
9 1/2	22	1175	81	
9 1/4	22	1175	80	
9 1/4	22	1170	82	
9 1/2	22 1/2	1170	83	
9 1/2	22	1170	83	
9 1/4	23	1170	83	
9 1/2	22 1/2	1170	82	
June 8.				
12.25 A.M.	9 1/2	23	1170	83
1.25	9 1/2	23	1170	83
2.25	9 1/2	23	1170	83

Bar H 3

	Volts	Amps	Spec G	Current Down
3.25	9 1/2	24	1170	82
4.25	9 1/2	24	1170	83
5.25	9 1/2	23 1/2	1170	84
6.25	9 1/2	24	1170	83
7.25	9 1/2	24	1170	82
8.25	9 1/2	23	1175	80
9.25	9 1/2	23	1175	81
10.25	9 1/2	22 1/2	1180	87
11.25	9 1/2	23	1170	81
12.25 PM	9 1/2	22	1175	82
1.25	9 1/2	17 1/2	1175	83
2.25	9 3/4	21	1175	83
3.25	9 3/4	22	1175	83
4.25	9 3/4	22	1175	80
5.25	9 1/2	21	1175	83
6.25	9 1/2	21 1/2	1175	81
7.25	9 1/2	21	1175	82
8.25	9 1/2	21 1/2	1175	82
9.25	9 1/2	22	1180	82
10.25	9 1/2	21	1180	82
11.25	9 1/2	21	1170	82
12.25	9 1/2	21	1170	83
1.25 PM	9 1/2	21	1170	83
2.25	9 1/2	21	1170	83

Calliper

.069.

June 9-AM

out

anode bracket not plotting for 15 minutes
while repairing it.

June 9th
AM

Bath #53

met
Disc ins
8 AM 12, 10, 10

SS	Orlt	Comp	Temp
8.45	1170	9.5	23 80
9.45	1170	9.5	22 1/2 80
10.45	1170	9.5	23 81
11.45	1170	9.5	23 80
12.45	1170	9.5	23 82
1.45	1170	9.5	23 82
2.45	1170	9.5	22 80
3.45	1170	9.5	22 82
4.45	1170	9.5	22 83
5.45	1170	9.5	22 83
6.45	1170	9.5	22 82
7.45	1170	9.5	21 1/2 80
8.45	1170	9.5	21 80
9.45	1170	9.5	22 80
10.45	1170	9.5	22 80
11.45	1170	9.5	22 81
12.45	1170	9.5	22 82

June 10

SS	Orlt	Comp	Temp
1.45 AM	1170	9.5	22 83
2.45	1170	9.5	22 83
3.45	1170	9.5	23 83
4.45	1170	9.5	23 83
5.45	1170	9.5	23 83
6.45	1170	9.5	23 83
7.45	1170	9.5	22 82
8.45	1170	9.5	23 83

355

181

Bath 3

Sec	Volts	Amp	Amp
9.45	1175	9.5	23 82
10.45	1175	9.5	22 82
11.45	1175	9.5	22 82
12.45	1175	9.5	22 81
1.45	1175	9.5	22 80
2.45	1175	9.5	22 1/2 80
3.45	1175	9.5	22 80
4.45	1175	9.5	22 80
5.45	1175	9.5	22 80
6.45	1175	9.5	21 80.220 34 hours
7.45	1175	9.5	21 80
8.45	1175	9.5	21 80
9.45	1175	9.5	20 1/2 80 37 hours
10.45	1175	9.5	21 80
11.45	1175	9.5	21 80

Out
June - 10
PM

0.695 cal per

Mr 3 Bath
2nd Dec

861 Amp in 39 hours

Out 11.45 P.M. June 10

June 11

9 A.M.

Bath No 3

	L.G.	Grill	Temp	Temp
9.00	1170	9 1/2	19	80
10.00	1170	9 1/2	20	81
11.00	1170	9 1/2	20	82
12.00	1170	9 1/2	20	82
1.00	1170	9 1/2	20	82
2.00	1170	9 1/2	20	80
3.00	1170	9 1/2	20	82
4.00	1170	9 1/2	20	83
5.00	1170	9 1/2	20	83
6.00	1171	9 1/2	20	82
7.00	1170	9 1/2	20	83
8.00	1170	9 1/2	20	83
9.00	1170	9 1/2	20	83
10.00	1170	9 1/2	20	82
11.00	1170	9 1/2	20	80
12.00	1170	9 1/2	20	80

3rd Sec
in
same Arch

June 12

1.00 A.M.

1.00	1170	9 1/2	20	80
2.00	1170	9 1/2	20	80
3.00	1170	9 1/2	20	80
4.00	1170	9 1/2	20	81
5.00	1170	9 1/2	20	80
6.00	1170	9 1/2	19	80
7.00	1170	9 1/2	20	80
8.00	1170	9 1/2	20	81
9.00	1170	9 1/2	20	83

17 9

Anode broken replaced with
Copper wire 6 P.M.

This anode gave 3 discs
068" thick
only 3 to 5 oz left

June 3 3rd Disc Out

3.30 June-13

857 Comp in 4 1/2 hrs

at out 20 Comp

Per hour

June 12
A.M.

Bath No 3

3rd Disc
same Grade

Time	S.E.	Folth	Comp	Temp
10.00	1170	9 1/2	19	83
11.00	1170	9 1/2	18	83
12.00	1170	9 1/2	18	83
1.00	1170	9 1/2	18	83
2.00	1170	9-5	18	83
3.00	1170	9-5	17	83
4.00	1170	9-5	18	82
5.00	1170	9-5	17	80
6.00	1170	9-5	20	82
7.00	1170	9-5	22	83
8.00	1170	9-5	23	83
9.00	1170	9-5	23	83
10.00	1170	9-5	23	83
11.00	1170	9-5	23	81
12.00	1170	9-5	23	85
1.00	1170	9-5	23	84
2.00	1170	9-5	22	84
3.00	1170	9-5	22	82
3.30	1170	9-5	11	82

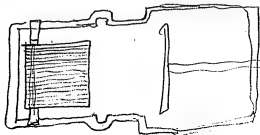
A.M.
OUT

out 3-30

OUT

At 3 PM Sunday came down to room & found all the electric lights burning over baths

Another anode — June 13 1920 3 B. alt



1/4 sections placed solidly together without washers — No cloth separator used

June 13-

Time	Wt.	Vol.	Temp.	Time	Wt.
6:50	1175	9 1/2	21	82	
7:50	1175	9 1/2	23	83	23
8:00	1175	9 1/2	22	83	45
9:00	1175	9 1/2	22 1/2	83	67
10:00	1175	9 1/2	22	80	89
11:00	1175	9 1/2	22	80	111
12:00	1175	9 1/2	22	80	133
1:00	1170	9 1/2	23	80	156
2:00	1170	9 1/2	23	81	179
3:00	1170	9 1/2	23	82	202
4:00	1170	9 1/2	24	80	226
5:00	1170	9 1/2	23	80	249
6:00	1170	9 1/2	23	82	276
7:00	1170	9 1/2	23	81	295
8:00	1175	9 1/2	22	80	317

Bath 3

1st anode

June 14

AM	Spec	Volt	amp.	Temp.	Temp.
9.00	1170	9-5	23	83	840
10.00	1170	9-5	23	83	863
11.00	1170	9-5	25	83	888
12.00	1170	9-5	25	83	413
1.00	1175	9-5	25	80	438
2.00	1175	9-5	25	80	463
3.00	1175	9-5	25	80	488
4.00	1175	9-5	25	80	551
5.00	1175	9-5	25	80	538
6.00	1175	9-5	27	80	576
7.00	1175	9-5	26	83	591
8.00	1175	9-5	25 1/2	83	616
9.00	1175	9-5	25 1/2	83	642
10.00	1175	9-5	25	82	667
11.00	1175	9-5	25	82	692
12.00	1175	9-5	25	80	717
1.00	1175	9-5	25	80	742
2.00	1175	9-5	25	80	767
3.00	1175	9-5	25	80	792
4.00	1175	9-5	25	80	817
5.00	1175	9-5	25	80	842
6.00	1175	9-5	24	80	876

Out
866 AMP6.00 AM
866 AMPThis is first one from
this anode

Out 6.00 A.M. June 15

866 Amp in 86 hours
at about 24 Amp per hour

Pro 3
Blanked with Nickel

75 3

2nd *mother*
in

June 15 AM	SG	Volts	Amp	Temp	Total Amp
10:30	1175	9 1/2	24	83	
11:30	1175	9 1/2	26	81	26
12:30	1175	9 1/2	26	81	52
1:30	1175	9 1/2	26	81	78
2:30	1170	9 1/2	26	81	104
3:30	1170	9 1/2	26	80	130
4:30	1170	9 1/2	26	80	156
5:30	1170	9 1/2	26	80	183
6:30	1170	9 1/2	25	80	208
7:30	1170	9-5	26	80	234
8:30	1170	9-5	26	80	260
9:30	1170	9-5	27	83	287
10:30	1170	9-5	27	83	314
11:30	1170	9-5	27	82	341
12:30	1170	9-5	27	80	368
1:30	1170	9-5	27	80	395
2:30	1170	9-5	27	80	422
3:30	1170	9-5	27	80	449
4:30	1170	9-5	27	80	476
5:30	1170	9-5	27 1/2	80	503
6:30	1170	9-5	28	80	531
7:30	1170	9-5	28	80	559
8:30	1170	9-5	27	83	586
9:30	1170	9-5	27	83	613

1:30 P.M. - dug support
 Eat. off at rod.

This anode not a success
 because current goes around
 sides direct - reaches rod
 direct - only safe place
 would be the center



Doubtful of any good

7/16 3

2nd Disc

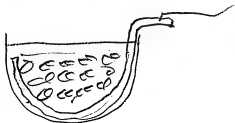
Jan 16

A.M.	L.S.	P.H.	Temp	Temp	Total temp
10:30	1170	9 1/2	27	80	640
11:30	1170	9 1/2	27	80	667
12:30	1170	9 1/2	28 1/2	82	695
1:30	1170	9 1/2	30	82	725

27
 out

Anode Abandoned

Bath. No 3 1st size



This is filled with Copper
pieces twisted more
than the 16lb ones - same
as others

No 6. Stopped in Bath from 6-10:30
6-30. reason felt was to loose
Started to plate tonight

Time	Spec	Bath	amp	Temp	Temp
6:00	1170	9-5	23	82	
7:00	1170	9-5	25	82	25
8:00	1170	9-5	27	82	52
9:00	1170	9-5	27	83	79
10:00	1170	9-5	27	83	106
11:00	1170	9-5	27	83	133
12:00	1170	9-5	27	81	160
Sum 14					
1:00	1170	9-5	27	80	187
2:00	1170	9-5	27	80	214
3:00	1170	9-5	26	80	240
4:00	1170	9-5	26	80	266
5:00	1170	9-5	26	82	292

Notice it goes off a vapor
possible gas coming off
somewhere in system
bubbles note 28 amp

No. 8. Temp in Bath at 10:30
June 12 11.4 - Bath - 83 in crock

Power off from 12:00 to 12:30

Temp dropped from 114° to 108°

Started to plate again got 25 amp at
11.4 was getting 28 at 114 in Bath

Bath No-3

June 14	S.S.	Volt	Amp.	Temp. Bath
6:00 AM	1170	9-5	27	82 319
7:00	1170	9-5	26	81 345
8:00	1170	9-5	26	80 371
9:00	1175	9-5	27	83 398
10:00	1175	9-5	28	83 426
11:00	1175	9-5	28	83 454
12:00	1175	5-5	25	81 479 Current off
12:30 PM				" on
1:30	1175	9-5	26	81 505
2:30	1175	9-5	27	82 532
3:30	1175	9-5	27	82 559
4:30	1175	9-5	27	82 586
5:30	1175	9-5	27	82 613
6:30	1170	9-5	26	82 639
7:30	1175	9-5	27	82 666
8:30	1175	9-5	27	82 693
9:30	1175	9-5	26	82 719
10:30	1175	9-5	26	82 745
11:30	1175	9-5	26	82 771
12:30	1175	9-5	26	80 797
June 15				
1:30	1175	9-5	26	80 723
2:30	1175	9-5	26	80 749
3:30	1175	9-5	27	82 775
4:30	1175	9-5	26	80 802
5:30	1175	9-5	26	80 828

15.4

Bath No 3

June 18 AM	SS	Volts	Amps	Temp	Total	
6.30	1175	9-5	26	80	854	
7.00	1175	9-5	26	80	867	Out 37 hours

7743 1st Disc Out June 18
867 Amp in 37 hours
about 23 1/2 lbs. per hour

Beefit Creek

Back No 3 2nd Lisc
Sonneborn

June 18.

AM	Shm	Birth	Camp	Camp	Hotel
11:30	1175	9-5	21	83	
12:30	1175	9-5	22	83	22
1:30	1175	9-5	22	83	44
2:30	1175	9-5	23	83	67
3:30	1175	9-5	22	84	89
4:30	1175	9-5	22	84	111
5:30	1175	9-5	22	83	133
6:30	1175	9-5	22	83	155
7:30	1175	9-5	22	83	177
8:30	1175	9-5	22	83	199
9:30	1175	9-5	22	83	221
10:30	1175	9-5	21	83	242
11:30	1175	9-5	22	80	264
12:30	1175	9-5	22	80	286
June 19					
1:30 AM	1175	9-5	22	80	308
2:30	1175	9-5	22	80	330
3:30	1175	9-5	22	80	352
4:30	1175	9-5	22	80	374
5:30	1175	9-5	21	80	395
6:30	1175	9-5	21	80	416
7:30	1175	9-5	21	81	437
8:30	1175	9-5	21	82	458
9:30	1175	9-5	21	83	479
10:30	1175	9-5	21	83	500 23 Over

Bath No 3 2nd Lie

JUNE
19

AM	Levy	Gold	amp	Temp	Total
11.30	1175	9 1/2	21	83	521
12.30	1175	8 1/4	21	83	542
1.30	1175	9 1/2	21	83	563
2.30	1175	8 1/4	23	83	586
3.30	1175	9 1/2	23	83	609
4.30	1175	9 1/2	23	83	632
5.30	1175	9 1/2	23	83	655
6.30	1175	9 1/2	23	83	678
7.30	1175	9 1/2	23	83	701
8.30	1175	8 1/4	21	83	722
9.30	1175	9 1/2	20	83	742
10.30	1175	9 1/2	21	83	763 ✓
11.30	1175	9 1/2	21	83	784
AM					
12.30	1175	9 1/2	21	83	805
1.30	1175	9 1/2	20	80	825
2.30	1175	9 1/2	20	80	845
3.30	1175	9 1/2	20	80	865

Out

Temp
in 40 hours
21 1/2 per hour

June 22 10:30 Anode Chamber
filled up with copper ions
3rd size

Bath 91° 3. 3rd size
in
same Anode

JUNE 22	Shw	Volt	Amp	Amp	Total
PM					
11.00	1175	9 1/2	19 1/2	83	
12.00	1175	9 1/2	19	83	19
AM June 23					
1.00	1175	9 1/2	19	83	38
2.00	1175	9 1/2	19	80	57
3.00	1175	9 1/2	20	80	77
4.00	1175	9 1/2	20	80	97
5.00	1175	9 1/2	20	80	117
6.00	1175	9 1/2	20	80	137
7.00	1175	9 1/2	20	80	157
8.00	1175	9 1/2	19	80	176
9.00	1175	9 1/2	20	83	196
10.00	1175	9 1/2	20	83	210
11.00	1175	9-5	20	83	230
12.00	1175	9-5	20	83	250
1.00	1175	9-5	20	83	270
2.00	1175	9-5	20	83	290
3.00	1175	9-5	20	83	310
4.00	1175	9-5	20	83	330
5.00	1175	9-5	20	83	350
6.00	1175	9-5	20	83	370
7.00	1175	9-5	20	83	390
8.00	1175	9-5	20	83	410
9.00	1170	9-5	20	83	420
10.00	1170	9-5	20	84	440

m3 Bath Chamber filled up
 Comp - dropped from 19 to 17 amp
 when filled Comp went up to 20 amp
 June 24 - 5:30 PM

Bath #153 3rd Lisc

JUNE-23
 PM

Time	Sec.	Volts	Amp	Temp	Notes
11:00	1170	9 1/2	19	83	459
12:00	1170	9 1/2	19	84	478
AM June 24					
1:00	1170	9 1/2	19	84	497
2:00	1170	9 1/2	20	80	575
3:00	1170	9 1/2	21	80	538
4:00	1170	9 1/2	22	80	560
5:00	1170	9 1/2	22	80	582
6:00	1170	9 1/2	23	80	605
7:00	1170	9 1/2	23	80	628
8:00	1170	9 1/2	21	82	649
9:00	1170	9 1/2	21	83	670
10:00	1170	9 1/2	21	83	691
11:00	1170	9 1/2	21	83	711
12:00 PM	1170	9 1/2	21	83	730

start

June 25 -

12:00	1170	9 1/2	17 1/2	81	449
1:00	1170	9 1/2	18	82	467
2:00	1170	9 1/2	19	83	486
3:00	1170	9 1/2	19	83	505
4:00	1170	9 1/2	19	83	524
5:00	1170	9 1/2	20	81	544
6:00	1170	9 1/2	20	81	564

Out at 864 amh

Bath #153 June 25 - 6:00 AM

3rd Lisc Out

864 Amp 43 hours start

20 Amp for June

En June 22 - 11:00 PM

started the second time

12:00
 730
 to make Room
 for Wash & Dry

No 3 Beth 4 Disc in 20 mi Amide

JUNE	Lat	Long	Am	Imp	Total
26					
10.30 AM	1170	9 1/2	18	80	18
11.30	1170	9 1/2	18	83	35
12.30	1170	9 1/2	17 1/2	80	53
1.00	1170	9-5	17 1/2	80	70
2.00	1170	9-5	17 1/2	83	88
3.00	1170	9-5	17 1/2	83	105
4.00	1170	9-5	17 1/2	80	123
5.00	1170	9-5	17 1/2	80	139
6.00	1170	9-5	17 1/2	83	157
7.00	1170	9-5	17 1/2	83	173
8.00	1170	9-5	17 1/2	83	190
9.00	1170	9-5	17 1/2	83	208
10.00	1170	9-5	17 1/2	83	225
11.00	1170	9-5	17 1/2	81	243
12.00	1170	9-5	17 1/2	81	260
1 PM June 27					
1.00	1170	9-5	17 1/2	80	276
2.00	1170	9-5	17	81	293
3.00	1170	9-5	17	81	310
4.00	1170	9-5	17	81	324
5.00	1170	9-5	17	81	344
6.00	1170	9-5	17	81	361
7.00	1170	9-5	17 1/2	81	378
8.00	1170	9-5	17 1/2	81	

No 3. Bath 4th Lianm

JUNE
27

AM	Lhs	Volla	Comp	Comp	Hotel
9.00	1170	9-5	18	83	396
10.00	1170	9-5	18	83	414
11.00	1170	9-5	18	83	432
12.00	1170	9-5	18	83	450
1.00	1170	9-5	18	83	468
2.00	1170	9-5	18	83	486
3.00	1170	9-5	18	83	504
4.00	1170	9-5	18	83	522
5.00	1170	9-5	18	83	540
6.00	1170	9-5	18	83	558
7.00	1170	9-5	17 1/2	83	575
8.00	1170	9-5	17 1/2	83	593
9.00	1170	9-5	17 1/2	81	610
10.00	1170	9-5	17 1/2	81	628
11.00	1170	9-5	18	81	646
12.00	1170	9-5	18	80	664
AM	June 28				
1.00	1170	9-5	17	80	681
2.00	1170	9-5	17	80	698
3.00	1170	9-5	17 1/2	81	715
4.00	1170	9-5	17 1/2	81	733
5.00	1170	9-5	17	81	750
6.00	1170	9-5	17	81	767
7.00	1170	9-5	17	82	784
8.00	1170	9-5	17	82	801

hrs
50) 882.0
 50
 382
 380
 280
 280
 280

Start June 26, 20. - 10.30 AM
Finish " 28, " - 12.30 AM.
Total Amps 882
" hours 50
Average Amps. 17.5
#3 tank 1 - lost anode
4th disc.

753 Bath 4th Dec
80

JUNE	Sh	Bath	Camp	Camp	Hotel
28 AM					
9:00	1170	9.5	17 1/2	871	818
10:00	1170	9.5	17	81	835 +
11:30	1170	9.5	17.5	83	852
12:30	1170	9.5	19	80	871 Out
					11
					882

#3 Bath

Plate	Sp. Gr	Volts	Amps	Temp	Total
-------	--------	-------	------	------	-------

[illegible]

Reg thick Cap bai, scrap-

Scram. Reg Linn

Screen in this Bath was
Wash Reg. Brown Color.

Take out 750 amper hours

No 3 Bath 1st Discim

JULY	Sh	Volt	amp	amp	total
PM					
11:00	1165	9-5	16	80	
12:00	1165	9-5	16	80	16
AM					
	July	4-4			
1:00	1165	9-5	16	80	32
2:00	1165	9-5	16	80	48
3:00	1165	9-5	16	83	64
4:00	1165	9-5	16	83	80
5:00	1165	9-5	16	83	96
6:00	1165	9-5	16	83	112
7:00	1165	9-5	16	83	128
8:00	1165	9-5	17 1/2	84	144
9	1165	9-5	18	84	160
10	1165	9-5	18	84	176
11	1165	9-5	18	82	192
12:00	1165	9-5	18	82	208
PM					
1:00	1165	9-5	18	82	224
2:00	1165	9-5	17	84	240
3	1165	9-5	17-5	83	256
4	1165	9-5	17-5	83	272
5	1165	9-5	17-5	83	288
6	1165	9-5	18	82	304
7	1165	9-5	18	82	320
8	1165	9-5	18	81	336
9	1165	9-5	18	81	352
10	1165	9-5	18	81	368

not a nub on

Bath 5:3

Outside Cal = .055
Dundie " = .063

Cleaned up .043
45) 745 (16.5

$$\begin{array}{r} 45 \times 2 \\ \hline 270 \\ \hline 270 \\ \hline 220 \end{array}$$

Bath 3 stations out at 10:00 o'clock.
July 3, 1900 and note: taking of with flies.

#3 Bath #1 disc.
After cleaning tanks free from
grease & soil.
Ran total to 750 Amps.

Start July 3, 20, 11 PM.
Finish " 5:20, 8 PM.
Total Amps 745
" hours 45

Average Amps 16.5

NE 3 Bath 1st disc in

JULY	AM	Volts	Comp	Comp	Total	
PM	11:00	1165	9-5	14	81	413 not a rest in
	12:00	1165	9-5	16 1/2	81	429
AM	1:00	1165	9-5	16 1/2	81	446
	2:00	1165	9-5	16	81	462
	3:00	1165	9-5	15 1/2	81	477
	4:00	1165	9-5	15 1/2	81	492
	5:00	1165	9-5	15 1/2	81	508
	6:00	1165	9-5	15 1/2	81	524
	7:00	1165	9-5	15	81	539
	8:00	1165	9-5	15 1/2	81	554
	9:00	1165	9-5	15 1/2	81	570 not a rest in
	10:00	1165	9-5	16	81	586
	11:00	1165	9-5	16	81	602
PM	12:00	1165	9-5	16	81	618
	1:00	1165	9-5	16	81	634
	2:00	1165	9-5	15 1/2	81	649
	3:00	1165	9-5	16	81	665
	4:00	1165	9-5	16	81	681
	5:00	1165	9-5	16	81	697
	6:00	1165	9-5	16	81	713
	7:00	1165	9-5	16	81	729 not a rest in
	8:00	1165	9-5	16	81	745 out
Collected Cleaned up .45 disc						
043 - not jumped						

Drilled in H.O. edge not
rounded off

Use, revolve 1/2 P.M.

$$\begin{array}{r} 205 \overline{) 318.2} \\ \underline{1130} \\ 1020 \\ \underline{1020} \\ 0 \end{array} \quad 15.5$$

#3 Bath #2 case
Start. July 6, 20 - 2 P.M.
Finish. July 7, 20 - 11:30 A.M.
Total Amps = 318
" hours = 20 1/2
Average Amp = 15.5

Bath No 3

disc 2nd int

July 6

P.M.	Specs	Dolls	amp	Temp	Total
2.00	1165	9-5	14	75	
3.00	1165	9-5	14	80	14
4.00	1165	9-5	16	83	30
5.00	1165	9-5	15-5	83	45
6.00	1165	9-5	15-5	84	61
7.00	1165	9-5	16	84	77
8.00	1165	9-5	16	84	93
9.00	1165	9-5	15-5	84	108
10.00	1165	9-5	15-5	84	124
11.00	1165	9-5	16	84	140
12.00	1165	9-5	15-5	84	155
A.M.	July 7				
1.00	1165	9-5	15-5	84	171
2.00	1165	9-5	15-5	84	186
3.00	1165	9-5	15-5	84	202
4.00	1165	9-5	15-5	84	217
5.00	1165	9-5	15-5	84	233
6.00	1165	9-5	15-5	84	248
7.00	1165	9-5	15-5	84	264
8.00	1165	9-5	15	84	279
9.00	1165	9-5	15	84	295
10.00	1165	9-5	15	84	310
11.30	1165	9-5	15	84	325

Ant

Added 5.00 general bath dose
to floating solution. 11:30 AM.

#3 Bath

3rd diss inv.

Start July 7, 20 at 11:30 AM.

date	Sp. No.	Vols	Amps	Temp	Total
7/20 AM	1165	9.5	14.5	82	
2:30	1165	9.5	14.5	82	14
1:30 PM	1165	9.5	14.5	83	29
2:30	1165	9.5	15	83	44
3:30	1165	9.5	15	84	59
4:30	1165	9.5	15	85	74
5:30	1165	9.5	15	85	89
6:30	1165	9.5	15.5	84	105
7:30	1165	9.5	15	84	120
8:30	1165	9.5	15.5	83	135
9:30	1165	9.5	15	83	150
10:30	1165	9.5	15	82	165
11:30	1165	9.5	15	82	180
2:30	1165	7.5	15	82	175
4 AM July 8					
11:30	1165	9.5	15	82	216
2:30	1165	7.5	15.5	82	226
3:30	1165	7.5	15.5	82	241
4:30	1165	7.5	15.5	82	257
5:30	1165	7.5	16	82	273
6:30	1165	9.5	16	82	289
7:30	1165	9.5	16	82	305
8:30	1165	9.5	14.5	82	319
9:30	1165	9.5	15	80	334
10:30	1165	9.5	14.5	80	349

3 Patti

3rd place.

Age	Sy Dr	Vlt	Ampl	Jump	Total
11:30	1165	9.5	15	82	364
12:30	1165	9.5	15	82	379
1:30	1165	9.5	14.5	80	393
2:30	1165	9.5	14.5	80	408
3:30	1165	9.5	14	80	422
4:30	1165	9.5	14.5	80	436
5:30	1165	9.5	15	80	451
6:30	1165	9.5	15	81	466
7:30	1165	9.5	15	80	481
8:30	1165	9.5	15	80	496
9:30	1165	9.5	15	80	511
10:30	1165	9.5	15	80	526
11:30	1165	9.5	15	80	541
12:30	1165	9.5	14.5	80	556
AM July 9					
1:30	1165	9.5	14.5	80	571
2:30	1165	9.5	14.5	80	586
3:30	1165	9.5	14.5	80	601
4:30	1165	9.5	14.5	80	616
5:30	1165	9.5	14.5	80	631
6:30	1165	9.5	15	80	646
7:30	1165	9.5	14.5	80	661
8:30	1165	9.5	14.5	80	676
9:30	1165	9.5	15	78	691
10:30	1165	9.5	16.5	79	706

Added another 10

Added 10^{cc} gamma bath dose to
upper plate Sol. at 11 AM. July 9.

$$50 \left| \begin{array}{r} 755 \\ 25 \\ \hline 730 \end{array} \right| 15.1$$

Start July 7, 20. - 11³⁰ AM.
Finish " 9, " - 12³⁰ AM.
Total Amps 755
" hours 50
Average Amp 15.1

#3 Bath

3rd disc.

Start July 9, 20.

Time	Ex	Volt	Amp	Temp	Total
10 ³⁰	1165	9.5	17	80	721
11 ³⁰	1170	9.5	17.5	80	738
12 ³⁰	1165	9.5	16.5	82	755

Out

Test #2 Copper disc. 8-4 then 80 AMP
 hours, then wash + put in Cu bath
 wet. Copper bath for 600 amp hours.
 Then give to Mr Edison to try to
 peel off if possible
 Revolve - for 2 min before
 in plate

8 | 90 | 11.2

#2 Bath Nickel Plate #1 disc
 2 P.M. on disc. Nickel plate anode.
 Started July 7, 20 - 3:10 P.M.
 Finish July 7, 20 - 11:12 P.M.
 Total Amps 90
 " hours 8
 Average Amps. 11.2

#2 Bath

#1 disc, in,
Nickel Plate

Started July 7, 20 -

Start	Stop	Volt	Amps	Time	Total
3:10 P.M.	12:30	9.5	9	82	
4:10	12:30	9.5	10	89	10
5:10	12:30	9.5	11	92	21
6:10	12:30	9.5	11.5	92	32
7:10	12:30	9.5	11.5	92	44
8:10	12:30	9.5	11.5	98	55
9:10	12:30	9.5	11.5	98	67
10:10	12:30	9.5	11.5	98	78
11:10	12:30	9.5	11.5	98	90

Cut
 Transfer to #8 Copper
 plate bath.

Rotate in Ni bath 2 min. per in. dia.
to 80 amp. then rotate in Copper
no current 12 min. to 600 Amp. reverse

$$10 \left| \begin{array}{c} 120 \\ 120 \end{array} \right| 12.$$

Start July 7, 20 - 12-PM.
Finish. to 8, 20 - 10-AM
Total amp 120
Average amp 12.

#2 Bath

Start July 7, 20.

Start	Stop	Volts	Amps	Temp	Total
12:00	12:00	9.5	12	92	
AM	July 8, 20.				
1:00	12:00	9.5	12	92	12
2:00	12:00	9.5	12	93	24
3:00	12:00	9.5	12	100	36
4:00	12:00	9.5	12	98	48
5:00	12:00	9.5	12	98	60
6:00	12:00	9.5	12	95	72
7:00	12:00	9.5	12	95	84
8:00	12:00	9.5	12	94	96
9:00	12:00	9.5	12	94	108
10:00	12:00	9.5	12.5	94	120

#2 disc
Nickel plate
Elect. anode

added 1/2 gallon
dist H₂O.

No Skimmer in
Ni Bath

Transfer to #7
Copper plate bath

#3 Bath

4# disc.

Date	Started	July 7, 20				
Time	Up	Volts	Amps	Temp	Total	
3:30 PM	1165	9.5	17	81		
4:30	1165	9.5	17	80	17	
5:30	1165	9.5	17	80	34	
6:30						
7:30						
8:30						
9:30						
10:30						
11:30						
12:30						

Remarks
Balata
Test #1

Out No Good
Springs trees &
knobs.

6) 122 / 23

#3 Bath

5# disc.

Time	Sp. Sol.	Voltage	Temp	Total	Remarks
Started July 9, 20					
6:00 PM	1165	9.5	14.5	80	
7	1165	9.5	14.5	80	14 Balata
8	1165	9.5	18.5	80	33 Test # 2
9	1165	9.5	20	80	53
10	1165	9.5	20.5	80	74
11	1165	9.5	24	80	98
12	1165	9.5	24	80	122
July 10, 20					Out out because of tree extended to anode chamber N.G.

1.1.1.1

Ni Plated disc to 48 Amps
 Taken out by night shift
 washed common water and let
 stand for 6 hours on rack
 was dry when put in copper
 bath Mr Edison marked it but
 seemed like stains
 put in to bath dry & put with on
 after disc was in sol.

#3 Bath Copper Plate

Start	Time	Temp	Amps	Temp	Total	Transfer from
July 10, 20.	9 AM					
9:00	11:65	9.5	21	80		Transfer from #2 Ni Bath
10	11:65	9.5	19	80	19	
11	11:65	9.5	17.5	80	36	
12	11:65	9.5	17	80	53	
1:00	11:65	9.5	17	80	70	
2:00	11:65	9.5	17	80	87	
3:00	11:65	9.5	17	80	104	
4:00	11:65	9.5	17	80	121	
5	11:65	9.5	17	80	138	
6	11:65	9.5	16.5	80	155	
7	11:65	9.5	16.5	80	171	
8	11:65	9.5	16.5	80	188	
9	11:65	9.5	16.5	80	203	
10	11:65	9.5	16.5	80	220	
11	11:65	9.5	16.5	80	236	
12	11:65	9.5	16.5	80	253	
July 11, 20.						
1:00	11:65	9.5	16.5	80	269	
2:00	11:65	9.5	16.5	80	285	
3:00	11:65	9.5	16.5	80	302	
4:00	11:65	9.5	16.5	80	319	
5:00	11:65	9.5	16.5	80	336	
6:00	11:65	9.5	16.5	80	352	
7:00	11:65	9.5	16.5	80	369	
8:00	11:65	9.5	16.5	80	385	



10.00 AM Put in more trap lines

#3. Bath

6th Decm

Station Widie

July	Shn	Volls	My	My	Total
AM					
7-60	1165	9-5	165	80	402
10	1165	9-5	18	88	420
11	1165	9-5	17-5	80	437
12	1165	9-5	17-5	80	449
1-00	1165	9-5	17-5	80	465
2-00	1165	9-5	17-5	80	482
3	1165	9-5	18	80	500
4	1165	9-5	18	80	518
5	1165	9-5	18	80	536
6	1165	9-5	17-5	81	553
7	1165	9-5	17-5	81	571
8	1165	9-5	17-5	81	587
9	1165	9-5	17	81	604
10	1165	9-5	17	81	621
11	1165	9-5	165	81	637
12	1165	9-5	165	81	654
AM	July	12			
1-00	1165	7-5	16	81	710
2-00	1165	9-5	16	81	726
3-00	1165	7-5	16	81	742
4-00	1165	7-5	16	81	758
5-00	1165	7-5	16	81	774
6-00	1165	9-5	16	81	790
7-00	1165	9-5	16	81	806
8-00	1165	9-5	16	81	822

192 Amps hi plated

Put in wet.

One minute

3.6 Amps at the 9th notch
then full current.

Stained when first
put in copper.

) 760 (

~~Total Amps 760~~
~~Average Amps~~

3 Bath

Started July 12, 20, - 3 PM.

Time	Sp gr	Volts	Amps	Temp	Total
3 PM	11.65	9.5	16		
4 PM	11.70	9.5	16.5	80	16
5 -	11.65	9.5	18	80	34
6	11.65	9.5	17.5	80	52
7	11.65	9.5	17	80	69
8	11.65	9.5	17	80	86
9	11.65	9.5	17.5	81	104
10	11.65	9.5	18	83	122
11	11.65	9.5	18	83	140
12	11.65	9.5	17.5	83	157
July 13, 20.					
1 PM	11.65	9.5	18	81	175
2 PM	11.65	9.5	18	81	193
3 PM	11.65	9.5	18	81	211
4 PM	11.65	9.5	18	81	229
5 PM	11.65	9.5	18	81	247
6 PM	11.65	9.5	18	81	265
7 PM	11.65	9.5	18	82	283
8 PM	11.65	9.5	18	82	301
9 PM	11.65	9.5	18.5	82	319
10 PM	11.65	9.5	17.5	83	337
11 PM	11.65	9.5	18	83	355
12 AM	11.65	9.5	17.5	83	372
1 PM	11.65	9.5	18.5	83	391
2 -	11.65	9.5	18.5	85	409

$$43 \overline{) 760} \begin{matrix} \times \\ 17 \\ \hline 330 \\ 330 \\ \hline 760 \end{matrix}$$

Total Amp/22 760
 " 22 43
 Charge Amp/ 17

3 Bath

July 12, 20.	Sp. Dr.	Voltage	Amp.	Temp.	Total
3:00	1165	9.5	11.5	85	427
4.0	1165	9.5	18	85	445
5.0	1165	9.5	18	85	463
6	1165	9.5	18	80	481
7	1165	9.5	18	80	499
8	1165	9.5	18	80	517
9	1165	9.5	18	85	535
10	1165	9.5	17.5	84	552
11	1165	9.5	17.5	83	570
12	1165	9.5	14.5	83	587
AM	July 14				
1:00	1165	9.5	17.5	83	605
2:00	1165	9.5	18	83	623
3:00	1165	9.5	18	83	641
4:00	1165	9.5	18	83	659
5:00	1165	9.5	18	83	677
6:00	1165	9.5	17	84	694
7:00	1165	9.5	16.5	84	710
8:00	1165	9.5	16.5	83	727
9	1165	9.5	16	80	743
10	1165	9.5	17	81	760

Cent

95 Amps in bath
Revised 2 Minutes then current
put on.

Put in copper bath dry
with full current on.

This rise was hanging on rack
from in Bath
July 13, 20 - 10 P.M.
July 14, 20 - 1 P.M. before
putting in copper bath

#3 Bath

Started July 14 @ 1 P.M.

Time	Volts	Amps	Temp	Total
1 P.M.	116.5	9.5	11	80
2 P.M.	116.5	9.5	16	80
3	116.5	9.5	17	85
4	116.5	9.5	17	85
5	116.5	9.5	17	85
6	116.5	9.5	17	85
7	116.5	9.5	17	85
8	116.5	9.5	16.5	85
9	116.5	9.5	16.5	85
10	116.5	9.5	16.5	83
11	116.5	9.5	16.5	83
12	116.5	9.5	16.5	83
July 15, 20,				
1 P.M.	116.5	9.5	16.5	83
2	116.5	9.5	16.5	83
3	116.5	9.5	16.5	83
4	116.5	9.5	16.5	83
5	116.5	9.5	16.5	83
6	116.5	9.5	16.5	83
7	116.5	9.5	16.5	83
8	116.5	9.5	16.5	83
9	117.5	9.5	17.5	81
10	116.5	9.5	17	81
11	116.5	9.5	17	81
12	116.5	9.5	16.5	80

$$\begin{array}{r} 43 \overline{) 775} \quad (18. \\ \underline{43 \times} \\ 345 \\ \underline{345} \\ 0 \end{array}$$

$$\begin{aligned} \text{Total Amps} &= 775 \\ \text{" } \text{hours} &= 4.3 \\ \text{Average Amps} &= 18. \end{aligned}$$

#3 Bath

Time	Sp. Gr.	Voltage	Amps	Temp	Total
July 15, 20.					
10:45	1165	9.5	16.5	80	399
2	1165	9.5	17.5	80	417
3	1165	9.5	17.5	80	434
4	1165	9.5	17.	80	451
5	1165	9.5	17.5	80	469
6	1165	9.5	18	80	487
7	1165	9.5	19	92	506
8	1165	9.5	19	92	525
9	1165	9.5	19.5	93	544
10	1165	9.5	20	92	574
11	1165	9.5	21	92	595
12	1165	9.5	21	90	616
July 16, 20.					
1 AM	1165	9.5	18.5	71	634
2	1165	9.5	18.5	70	654
3	1165	9.5	18.5	72	678
4	1165	9.5	18.5	71	697
5	1165	9.5	18.5	71	718
6	1165	9.5	18.5	72	734
7	1165	9.5	18.5	72	756
8	1165	9.5	19	70	775

cont

73 hr

after 30 min open circuit for 24 min

Part in dry; Copper bath
full current on

#3 Bath

Time	Sp. Sol	Volts	Amps	Temp	Total
11 am	1165	9.5	17.5	91	
12	1165	9.5	17.5	91	17
1 P.M.	1165	9.5	18.5	89	36
2-	1165	9.5	19	90	55
3-	1165	9.5	19	94	74
4-	1165	9.5	19	90	93
5-	1165	9.5	18	90	111
6-	1165	9.5	18	90	129
7-	1165	9.5	18	88	147
8-	1165	9.5	18	88	165
9-	1165	9.5	18	88	183
10-	1165	9.5	18	88	201
11-	1165	9.5	18	89	219
12-	1165	9.5	18	89	237
July 17					
1 P.M.	1165	9.5	17.5	90	254
2-	1165	9.5	17.5	90	272
3-	1165	9.5	17	90	290
4-	1165	9.5	17	90	308
5-	1165	9.5	17	90	326
6-	1165	9.5	17.5	90	344
7-	1165	9.5	17.5	90	361
8-	1165	9.5	17.5	93	379
9-	1165	9.5	18	93	397
10-	1165	9.5	17.5	95	414

Transferred from
#2 to Bath
July 16, 20.
Total Amps 137 hr

Total Amp 759
 " from 43
 Average Amp 17 $\frac{1}{2}$

Bath 3 #

July 17-20					
AM	Spd	Volts	Amps	Miles	Total
11:00	1165	9-5	17	98	431
12-	1165	9-5	17	90	448
1:00	1170	9-5	16.5	90	464
2-	1170	9-5	18	95	482
3-	1170	9-5	18	95	500
4-	1170	9-5	18	95	518
5-	1170	9-5	18	95	536
6-	1170	9-5	18	93	554
7-	1170	9-5	18	90	572
8-	1170	9-5	18	90	590
9-	1170	9-5	17.5	90	608
10-	1170	9-5	17	90	625
11-	1170	9-5	17	89	642
12-	1170	9-5	17	92	659
AM	July	18-20			
1:00	1170	9-5	17	92	676
2:00	1170	9-5	17	92	693
3:00	1170	9-5	17	92	710
4:00	1170	9-5	16 $\frac{1}{2}$	92	726
5:00	1170	9-5	16 $\frac{1}{2}$	92	743
6:00	1170	9-5	16	92	759
					414

✓
 Amp
 43 from

Round Edge
 Part is dry
 Revolve 3 minutes then full current
 Part in Co-2 per dry
 full current on
 Spec's formed after 5 hrs in air, Bath

#3 Bath

Started July 19, 20: at 10 AM.

Time	Sp. No.	Sp. No.	Sp. No.	Sp. No.	Total
10-11 AM	1165	9.5	15	90	15
11-12	1165	9.5	16	94	31
12-1 PM	1165	9.5	17	94	48
1 PM	1165	9.5	17	94	65
2-	1165	9.5	17	92	82
3	1165	9.5	17	90	99
4	1165	9.5	17	88	116
5	1165	9.5	17	88	133
6	1165	9.5	17	88	150
7	1165	9.5	17	85	167
8	1165	9.5	15.5	85	182
9	1165	9.5	15.5	85	198
10	1165	9.5	15	90	213
11	1165	9.5	15	92	228
12	1165	9.5	15	92	243
July 20, 20	1165	9.5	16	91	259
1 AM	1165	9.5	16	91	275
2	1165	9.5	16	90	291
3	1165	9.5	16	96	307
4	1165	9.5	16	96	313
5	1165	9.5	16	96	329
6	1165	9.5	16	90	345
7	1165	9.5	16	94	361
8	1170	9.5	16	90	377

Transferred from
 #1 in Bath
 July 19, 20, 10 AM
 1127 Amp. in Plate

$$38) 616 \div 16.2$$

$$\begin{array}{r} 38 \times 16 = 608 \\ 616 - 608 = 8 \end{array}$$

616
 38
 16.2
 Avg amp 2-16.2
 16.2

#3 Bath

Time	Spgr	Volt	Amps	Temp	Total
10 AM	116.5	9.5	16	96	393
11	116.5	9.5	16	96	409
12	116.5	9.5	17	95	426
1 PM	116.5	9.5	17	93	443
2	116.5	9.5	16.5	89	459
3	116.5	9.6	16	89	475
4	116.5	9.5	16	88	491
5	116.5	9.5	16	88	507
6	1180	9.5	19	88	526
7	1175	9.5	18	85	544
8	1175	9.5	18	80	562
9	1175	9.5	18	80	580
10	1175	9.5	18	80	598
11	1170	9.5	18	80	616

added 800 cc
 H₂SO₄ at 66° B
 Ho Copper bath
 at 6 PM July 22, 24
 out

Tracked Blank NOT

Still Both

Veec J 20

Time	Volts	Amps	Time	Hrs
2:30	12	1		
3:30	12.5	1	1	1
4:30	12.5	1	2	2
5:30	13	1	3	3
6:30	11.5	1	4	4
7:30	11.5	1	5	5
8:30	11.5	1	6	6

Remarks

Still Both

Did not cover much
over 2nd track
granular plate.
No Good

Veec J 20
Still Both No 2

Time	Volts	Amps	Time	Hrs
2:30	12	1		
3:30	9.5	2	1	1
4:30	9	2	3	2
5:30	8.5	2	5	3
6:30	9.5	2	7	4
7:30	9.5	2	9	5
8:30	9.5	2	11	6
9-	10	2	12	7

Tracked Blank


Added 2 c.c. Copper into.
after 1 hour started plating
on first track
After 1 hour started plating on
second track.
after 1 1/2 hours started plating
on third track
out.

Better covered all except center 7 hrs.
This was put in at 9:30 to
finish as much as possible
the plating of the piece
Taken out 1:45.

4 Trashed Blank
Still Ruth
Remains.
Added 500 Gp. per lb.

Size	Wt	any	Total	Hours	Plated
200	10	1			
310	"	2			1
430	"	3			2 1/2
5	"	4			3
5H	9	5			3 1/4
530	9	10			3 1/2
620	"	10			4 1/2
730	"	10			5 1/2
830	"	10			6 1/2
930	"	10			7 1/2
1000	"	10			8 1/2
1100	"	10			9-

Plated very poor



Streaked plate
all around circles

Cut

No 5 Tracker Blank

Time	VOLTS	amps	Time	amps
11.30	11.5	2	1	$\frac{1}{2}$
11.35	11.5	3	2	$\frac{1}{2}$
11.40	11.5	5	3	1
11.45	11.5	5	4	2
11.50	11.5	5	5	3
11.55	11.5	5	6	3
12.00	11.5	5	7	4
12.05	11.5	5	8	5
12.10	11.5	5	9	6
12.15	11.5	5	10	7

Sp. all covered Receipt a
thin sheets circular
plate about 2" from
outside of disc

[ITEM(S) FOUND IN BOOK]

Wash well & rinse with distilled
water - put in wet -
Put one in 10 Minutes 7 Bath

The other 20 minutes before the
Cuvant is put on - 4 Bath -

Mark or put in so Knob is at
Top

The Ni in No 7 - had edge peeled for 1" long
probably Edge too sharp -

**Notebook Series -- Notebooks by Edison and Other Experimenters
Disc Plating Experiments
Notebook, N-20-06-08.1**

This notebook was used during June-July 1920 and January-March 1921 by Edison, Walter N. Archer, Paul B. Kasakove, and W. J. Taylor. The entries pertain to the plating processes involved in the manufacture of disc records. The early entries by Edison contain data on various plating baths. Following these entries are tabular reports by Archer and Taylor of various plating baths and various molds plated in "Bath 5" in June and July 1920. Notes, suggestions, and instructions by Edison are interspersed throughout the early tables. The second half of the book contains entries from January-March 1921 for experiments, numbered 1-59, on speeding up the plating process. These experiments resulted in the adoption of a fast nickel plating process that reduced plating time. At the end of the book are several pages of tabular forms without data (not selected). The front cover is labeled "5" and is marked "Nickel Fast Plating Processes Experiments." The pages are unnumbered, and several pages have been removed from the book. Approximately 135 pages have been used.

5 Bath -
June 8th - 2nd Dec in

1-20 Pm June 8

2-20

3-20

4-20

5-20

6-20

7-20

8-20

9-20

10-20

11-20

12-20



June 9

1-20 AM

2-20

3-20

4-20

5-20

6-20

7-20

8-20

9-20

10-20

11-20

12-20 PM June 9

1-20

SG	Volt	Comp	Temp
1175	9.5	28	83
1175	9.5	21	84
1175	9.5	21	83
1175	9.5	21	80
1175	9.5	21	82
1175	9.5	20	81
1175	9.5	20	82
1175	9.5	20 1/2	82
1180	9.5	21	82
1180	9.5	21	82
1170	9.5	21 1/2	80
1170	9.5	22	81
1170	9.5	22 1/2	83
1170	9.5	22 1/2	83
1170	9.5	22	81
1170	9.5	22	81
1170	9.5	22	82
1170	9.5	22	81
1170	9.5	21	83
1170	9.5	20	80
1175	9.5	20	80
1170	9.5	20 1/2	81
1170	9.5	20	81

5 Bath
June 9

	SG	Volts	Amps	Temp
2.0	1170	9 1/2	20	80
3.20	1170	9 1/2	20	80
4.20	1170	9 1/2	20	82
5.20	1170	9 1/2	20	83
6.20	1170	9 1/2	20	83
7.20	1170	9 1/2	19	81
8.20	1170	9 1/2	18 1/2	80
9.20	1170	9 1/2	18 1/2	80
10.20	1170	9 1/2	18	80
11.20	1170	9 1/2	19	80
12.20	1170	9 1/2	20	82
1.20	1170	9 1/2	20	82
2.20	1170	9 1/2	20	80
3.20	1170	9 1/2	20	82
4.20	1170	9 1/2	20	82
5.20	1170	9 1/2	20	83
6.20	1170	9 1/2	20	83

566 amp

33 amp

AM June 10

Out

At 5 2 mi Lisc

Calhoun 066

41 hours

21 Amp P. hour

Out June 10 6.20 A.M

5 Bath

3rd Spec inJune 10th
AM

	S.F.	Volts	Temp	Temp
10.00	1175	9.5	20	81
11.00	1175	9.5	20	81
12.00	1175	9.5	21	82
1.00	1175	9.5	21	81
2.00	1175	9.5	20	82
3.00	1175	9.5	19	81
4.00	1175	9.5	18	80
5.00	1175	9.5	18	81
6.00	1175	9.5	18	81
7.00	1175	9.5	19	80
8.00	1175	9.5	19	80
9.00	1175	9.5	19	80
10.00	1170	9.5	18	80
11.00	1170	9.5	18	80
12.00	1170	9.5	18	81
1.00	1170	9.5	18	80
2.00	1170	9.5	18	81
3.00	1170	9.5	17 $\frac{3}{4}$	80
4.00	1170	9.5	17	80
5.00	1170	9.5	17	80
6.00	1170	9.5	17	82
7.00	1170	9.5	17	80
8.00	1170	9.5	18	80
9.00	1170	9.5	15	81
10.00	1170	9.5	15	82
11.00	1170	9.5	16	82

PM
June 11

137

193

72

85 $\frac{3}{4}$

79

June 11 5 Bath 3rd Line

M	Sec	Boats	ampr	Gen
100	1170	9 1/2	15	80
100	1170	9 1/2	15	81
100	1170	9 1/2	15	80
100	1170	9 1/2	15	80
100	1170	9 1/2	15	83
100	1170	9 1/2	15	82
100	1170	9 1/2	15	83
100	1170	9 1/2	15	83
100	1170	9 1/2	14	83
100	1170	9 1/2	14	82
100	1170	9 1/2	16	80
100	1170	9 1/2	15	80

Boat chamber running over

June 12				
100	1170	9 1/2	16	80
100	1170	9 1/2	17	80
100	1170	9 1/2	17	80
100	1170	9 1/2	16	81
100	1170	9 1/2	16	80
100	1170	9 1/2	16	80
100	1170	9 1/2	17	80
100	1170	9 1/2	16	81
100	1170	9 1/2	16	83
100	1170	9 1/2	16	83
100	1170	9 1/2	15	83
100	1170	9 1/2	15	83
100	1170	9 1/2	15	83
100	1170	9 1/2	15	83
100	1170	9 1/2	15	83

12 V

Gr 5 Bath 3rd Line out

start June 10 - 10 A.M.
876 Comp in 5 1/2 hours
Out at June - 12 1/2 30 at 1 1/2 Amp 12 hours
P.M.

Out 76

Found no remarks anywhere calling
to attention to state of anode as
shown by amperes being low
until anode dropped off

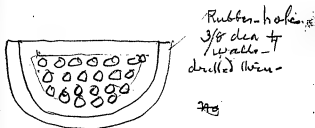
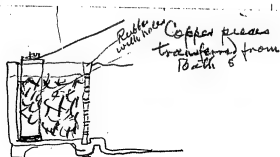
Note amp - anode by night
didn't hold up 2 disc
as it goes less & less amp

Anode NG -

Anode rate from support bar
2-30 PM not plotting

		7 th 5 Bath		4 th Disc in	
Time	Volts	Amps	Temp	Total amp	
3:00	1170	9 1/4	16	83	16
4:00	1170	9 1/2	15	82	31
5:00	1170	9 1/2	15	80	46
6:00	1170	9 1/2	14	82	60
7:00	1170	9 1/2	14	83	74
8:00	1170	9 1/2	13	83	87
9:00	1170	9 1/2	13	83	100
10:00	1170	9 1/2	14	83	114
11:00	1170	9 1/2	13	81	127
12:00	1170	9.5	14	85	141
1:00	1170	9.5	14	84	155
2:00	1170	9.5	13	84	168
3:00	1170	9.5	12 1/2	82	181
4:00	1170	9.5	13	82	194
5:00	1170	9.5	13	82	107
6:00	1170	9.5	12	82	119
7:00	1170	9.5	12	81	131
8:00	1170	9.5	10	84	141
9:00	1170	9.5	10	82	151
10:00	1170	9.5	10	82	161
11:00	1170	9.5	10	82	171
12:00	1175	9.5	10	81	181
1:00	1175	9.5	10	81	191
2:00	1175	9.5	10	81	201
3:00	1175	9.5	5	82	211

↓
 Note ampere, Resistance is in
 lack of more holes -
 Will make a new rubber
 Monday with more area
 of holes: —



stepped for 15 minutes bit broke
 at 10.00 am 13 PM
 marked across the face

June 13	SPG	Volt	Amp	Temp	Total amp
6pm	1175	9-5	19	83	
7:00	1175	9-5	20	83	20
8:00	1175	9-5	20	83	40
9:00	1175	9-5	20	83	60
10:00	1175	9-5	20	80	80
11:00	1175	9-5	21	80	101
12:00	1178	9-5	22	80	123
1:00	1170	9-5	22	80	145
2:00	1170	9-5	22	81	167
3:00	1170	9-5	22	82	189

						Bath No 5	
Time	AM	S.R.G.	Volts	Amph	Jenph	Total	
11:00	1170	9.5	22	80	211		
12:00	1170	9.5	22	80	233		
13:00	1170	9.5	22	82	255		
14:00	1170	9.5	22	81	277		
15:00	1175	9.5	21	80	298		
16:00	1175	9.5	21	83	319		
17:00	1175	9.5	21	83	340		
18:00	1170	9.5	21	83	361		
19:00	1170	9.5	21	83	382		
20:00 PM	1175	9.5	21	80	403		
21:00	1175	9.5	21	80	424		
22:00	1175	9.5	21	80	445		
23:00	1175	9.5	21	80	466		
24:00	1175	9.5	21	80	487		
25:00	1175	9.5	21 1/2	86	508		
26:00	1175	9.5	21	83	529		
27:00	1175	9.5	21	83	550		
28:00	1175	9.5	20	83	570		
29:00	1175	9.5	20	82	590		
30:00	1175	9.5	20	82	610		
31:00	1175	9.5	20	80	630		
32:00	1175	9.5	20	80	650		
33:00	1175	9.5	20	80	670		
34:00	1175	9.5	20	80	690		
35:00	1175	9.5	20	80	710		
36:00	1175	9.5	20	86	730		

no 5

<i>Time</i> <i>15</i> <i>min</i>	<i>Spk</i>	<i>Feet</i>	<i>Amp</i>	<i>Temp</i>	<i>Total</i>
5:00	1175	9.5	20	80	750
7:00	1175	9.5	20	80	770
9:00	1175	9.5	20	80	790
11:00	1175	9.5	20	83	810
1:00	1175	9.5	20	83	830
3:00	1170	9.5	20	82	850
5:00	1170	9.5	20	81	870

First
Out
42 hours

Jrs 5
 Elasket with Michel

8.00 June 15 P.M.

added coffee prices to Basket
 brought from 18- to 20

9th 5 2nd in

JUNE	St. Am	Setts	Comp	Comp	Total Gr
11:00 P.M.	1170	9.5	19	82	
1:00	1170	9.5	18 1/2	81	18
3:00	1170	9.5	18 1/2	81	37
5:00	1170	9.5	18	80	55
7:00	1170	9.5	18	80	73
9:00	1170	9.5	18	80	91
11:00	1170	9.5	18	80	109
1:00	1170	9.5	20	80	129
3:00	1170	9.5	20	83	149
5:00	1170	9.5	20	83	169
7:00	1170	9.5	22	83	191
9:00	1170	9.5	21	80	212
11:00 P.M.	1170	9.5	20	82	232
1:00	1170	9.5	20	80	252
3:00	1170	9.5	20	80	272
5:00	1170	9.5	20	80	292
7:00	1170	9.5	20	80	312
9:00	1170	9.5	20	80	332
11:00	1170	9.5	20	80	352
1:00	1170	9.5	20	80	372
3:00	1170	9.5	21	83	393
5:00	1170	9.5	21	83	414
7:00	1170	9.5	20	80	434
9:00	1170	9.5	20	80	454
11:00 P.M.	1170	9.5	19	82	473

June 16

90° 5 2nd spec Out

PM	Lat	Alt	Amp	Temp	Total
2.00	1170	9 1/2	20	82	493
3.00	1170	9 1/4	20	82	513
4.00	1170	9 1/4	20	82	533
5.00	1170	9-5	20	82	553
6.00	1170	9-5	20	82	573
7.00	1170	9-5	19	82	592
8.00	1170	9-5	18	82	610
9.00	1170	9-5	18	83	628
10.00	1170	9-5	18	83	646
11.00	1170	9-5	18	80	664
12.00	1170	9-5	18	81	682
June 17					
6.00 AM	1170	9.5	19	80	701
7.00	1170	9.5	19	80	720
8.00	1170	9.5	19	80	739
9.00	1170	9.5	20	80	759
10.00	1170	9.5	19	82	778
11.00	1170	9.5	19	82	797
12.00	1170	9.5	19	81	816
1.00	1170	9.5	19	80	835
2.00	1170	9.5	19	83	854
3.00	1170	9.5	19	83	873

90° 5 - 873 Amp. in 45 hours
about 19 1/2 per hour

Out

June 17 AM

45 hours

8th 5th Beth 3rd fac
same mach

June 17

AM	Shen	Qdls	Comp	Temp	Notes	
10:30	1170	9-5	19	83		
11:30	1175	9-5	18 1/2	83	18	
2:00	1175	9-5	18	81	36	Current off on
2:30						
1:30	1175	9-5	18	81	54	
2:30	1175	9-5	18	82	72	
3:30	1175	9-5	18	82	90	
4:30	1175	9-5	18	82	108	
5:30	1175	9-5	18	82	126	
6:30	1175	9-5	18	82	144	
7:30	1175	9-5	18	82	162	
8:30	1175	9-5	18	82	180	
9:30	1175	9-5	18	82	198	
10:30	1175	9-5	18	82	216	
11:30	1175	9-5	18	82	234	
12:30	1175	9-5	19	80	253	
Time	18					
1:30	1175	9-5	18	80	271	
2:30	1175	9-5	18	80	289	
3:30	1175	9-5	18	82	307	
4:30	1175	9-5	19	80	326	
5:30	1175	9-5	20	80	346	
6:30	1175	9-5	20	80	366	
7:30	1175	9-5	20	82	386	
8:30	1175	9-5	20	83	406	
22						

7/5 5

B. Disc
same basket

June 18

AM	SLW	Velth	Comp	Temp	Netel
9:30					
2:30	1175	9-5	20	83	426
4:30	1175	9-5	20	83	446
6:30	1175	9-5	19	83	465
8:30	1175	9-5	19	83	484
10:30	1175	9-5	19	83	503
12:30	1175	9-5	18	83	521
2:30	1175	9-5	18	84	539
4:30	1175	9-5	18	84	557
6:30	1175	9-5	18	83	575
8:30	1175	9-5	18	83	593
10:30	1175	9-5	17	83	610
12:30	1175	9-5	17	83	627
2:30	1175	9-5	17	83	644
4:30	1175	9-5	17	83	661
6:30	1175	9-5	17	80	678
8:30	1175	9-5	18	80	696
10:30	1175	9-5	18	80	714
12:30	1175	9-5	17	80	731
2:30	1175	9-5	18	80	749
4:30	1175	9-5	18	80	767
6:30	1175	9-5	18	80	785
8:30	1175	9-5	18	80	803
10:30	1175	9-5	18	81	821
12:30	1175	9-5	18	82	839

		9055		8 th Linc same area	
June 19					
8 AM	Ln	Costs	Camp	Camp	Total
936	1175	9 1/4	18	83	857
10:00	1175	9 1/4	18	83	866
					Out
					47 1/2 hours
					18 1/2 Camp in line

June 22-10-30 Grade Chambers
filled up with copper pieces

№ 5 Bath 4th Line in

Time	Shr	Bath	Comp	Temp	Total
11:00	1175	9 1/2	17	83	
11:30	1175	9 1/2	17	83	14
12:00	1175	9 1/2	17	80	34
12:30	1175	9 1/2	17	80	51
13:00	1175	9 1/2	17	80	68
13:30	1175	9 1/2	17	80	85
14:00	1175	9 1/2	17	80	102
14:30	1175	9 1/2	17	81	119
15:00	1175	9 1/2	17	81	136
15:30	1175	9 1/2	17	83	153
16:00	1175	9-5	17	83	170
16:30	1175	9-5	17	83	187
17:00	1175	9-5	17	83	204
17:30	1175	9-5	17	82	221
18:00	1175	9.5	17 1/2	83	238
18:30	1175	9.5	17 1/2	83	256
19:00	1175	9.5	18	83	273
19:30	1175	9.5	18	83	291
20:00	1175	9.5	18	83	309
20:30	1175	9.5	18	83	327
21:00	1175	9.5	18	83	345
21:30	1170	9.5	18	83	363
22:00	1170	9.5	18	83	381
22:30	1170	9.5	18	84	399

20-5 Beth 4th Ave

JUNE	Sh	Rolls	Comp	Temp	Wet
11:30 PM	1170	9 1/2	19	84	417
2:30	1170	9 1/2	19	84	436
14 June 24					
3:30	1170	9 1/2	19	80	453
4:30	1170	9 1/2	19	80	474
5:30	1170	9 1/2	18 1/2	80	492
6:30	1170	9 1/2	19	80	511
7:30	1170	9 1/2	19	80	530
8:30	1170	9 1/2	19	80	549
9:30	1170	9 1/2	19	80	568
10:30	1170	9 1/2	19	82	587
11:30	1170	9 1/2	20	83	607
12:30	1170	9 1/2	19	83	626
1:30	1170	9 1/2	19	83	645
2:30	1170	9 1/2	19	83	664
3:30	1170	9 1/2	18	83	682
4:30	1170	9-5	18	83	700
5:30	1170	9-5	19	83	719
6:30	1170	9-5	19	83	738
7:30	1170	9-5	19	80	757
8:30	1170	9-5	18 1/2	80	775
9:30	1170	9-5	17 1/4	80	793
10:30	1170	9-5	17 1/4	80	810
11:30	1170	9-5	17 1/4	83	827
12:30	1170	9-5	17	83	844

over

In June 22-11-30-PM

1155 Bath 4th Ave amp Cond

861 Amp in 48 hours

at 18 Amp per hour

Out June 24-11-30

JUNE

24

PM

1130

1130

1155 Bath 48 hrs.

Sec	Vols	Amp	Temp	Total	Out
9 1/2	17	83	861	<u>Out</u>	
				Amp	

Bath No 5 - 5th Dec

June 25th

AM	Spec.	Date	Ampt	Cent
11:30	1175	9-5	15	82
11:30	1175	9-5	16	80
12:30	1170	9-5	17	80
1:30	1170	9-5	17	80
2:30	1170	9-5	17	80
3:30	1170	9-5	17	80
4:30	1170	9-5	17	80
5:30	1170	9-5	17	80
6:30	1170	9-5	17	80
7:30	1170	9-5	17	80
8:30	1170	9-5	17	80
9:30	1170	9-5	16 1/2	80
10:30	1170	9-5	17	82
11:30	1170	9-5	17	80
12:30	1170	9-5	17	82
1:30	1170	9-5	17	83
2:30	1170	9-5	16 1/2	83
3:30	1170	9-5	16	83
4:30	1170	9-5	16	82
5:30	1174	9-5	16	82
6:30	1170	9-5	15	83
7:30	1170	9-5	15	83
8:30	1170	9-5	16	83

Bath No 5

5 disc
in

Spec Bath comp Temp

11-30	1170	9-5	16	83	412
12-30	1170	9-5	16	83	428
1-00	1170	9-5	16	80	444
2-00	1170	9-5	16	80	460
3-00	1170	9-5	16	83	476
4-00	1170	9-5	16	83	492
5-00	1170	9-5	16	80	508
6-00	1170	9-5	16	80	524
7-00	1170	9-5	16	83	540
8-00	1170	9-5	16	83	555
9-00	1170	9-5	16	83	571
10-00	1170	9-5	16	83	586
11-00	1170	9-5	16	83	602
12-00	1170	9-5	16	81	618
AM June 27					
1-00	1170	9-5	16	81	634
2-00	1170	9-5	16	80	650
3-00	1170	9-5	16	81	666
4-00	1170	9-5	16	81	682
5-00	1170	9-5	16	81	698
6-00	1170	9-5	16	81	714
7-00	1170	9-5	16	81	730
8-00	1170	9-5	16	81	746
9-00	1170	9-5	16	83	762
10-00	1170	9-5	16	83	778
11-00	1170	9-5	16	83	794

Bath 7:45

5th day
Out

Time	Day	With	Amp	Temp	Total
12:00	1170	9-5	16	83	810
1:00	1170	9-5	16	83	826
2:00	1170	9-5	16	83	842
3:00	1170	9-5	16	83	858
3:30	1170	9-5	16	83	866
Out					53 1/2 hours
					16 Amp 2.5 hours

No 5 Bath 6th Disc in
 Transferred # 6th disc to #3 tank

Time	Sec	Volts	Amps	Amps	Watt
6:00	1170	9 1/2	15 1/2	83	
6:00	1170	9-5	16	83	16
7:00	1170	9-5	16	83	32
8:00	1170	9-5	16	83	48
9:00	1170	9-5	16 1/2	81	64 1/2
10:00	1170	9-5	16 1/2	81	81
11:00	1170	9-5	17	81	98
12:00	1170	9-5	17	80	115
A.M. June 28					
1:00	1170	9-5	17	80	132
2:00	1170	9-5	17	80	149
3:00	1170	9-5	16	81	165
4:00	1170	9-5	16	81	181
5:00	1170	9-5	16	81	197
6:00	1170	9-5	16	81	213
7:00	1170	9-5	16	82	229
8:00	1170	9-5	15 1/2	82	244
9:00	1170	9-5	15 1/2	81	259
10:00	1170	9-5	15	81	274
11:00	1170	9-5	15	83	289
12:00	1170	9-5	15	83	304
1:00	1175	9-5	14	80	318
2:00	1175	9-5	14 1/2	83	332
3:00	1175	9-5	17 1/2	81	349
4:00	1150	9-5	17 1/2	82	366

3 P.M.
 Transfer to
 #3 tank.
 Low Amps

#5 Bath

6th disc

Transferred to #3 Bath, acct. low comp.

June 25, 1910.

Time	Sp. Gr.	Volta	Amp.	Temp.	Total	260
8 PM	1165	9-5	18.5	78	394	
6 "	1165	9-5	18.5	80	413	
7 "	1165	9-5	19	80	431	
8 "	1165	9-5	19.5	80	450	
9 "	1165	9-5	16	80	466	
10 "	1165	9-5	16	80	482	
11 "	1165	9-5	15.5	80	498	
12 "	1165	9-5	16	80	514	
1 PM	Transferred					
12:45	1165	9-5	16	81	530	
2:00	1165	9-5	16	81	546	
3:00	1165	9-5	16	82	562	
4:00	1165	9-5	16	82	578	
5:00	1165	9-5	16	81	594	
6:00	1165	9-5	16	81	610	
7:00	1165	9-5	16.5	82	626	
8:00	1165	9-5	16.5	82	643	
9 AM	1165	9-5	17	87	660	
10 "	1165	9-5	16	86	676	at 10.15 Volta
11 "	1165	10	17	90	693	raised 15 points
12 PM	1165	10	17.5	86	710	
1 PM	1165	10	17	90	727	
2 "	1165	10	16.5	90	744	
3 "	1165	10	16.5	90	760	
4 "	1165	10	16.5	88	777	

#5 Bath

6th disc.

transferred to #3 Bath with low amp.

Time	Sp. Rev.	Volts	Amps	Temp	Total	177
5 PM	1165	20	16.5	87	793	
6 "	1165	10	16.5	85	810	
7 "	1165	10	16.5	85	826	
8 "	1165	10	16	85	842	
9 "	1165	10	16	85	858	
10 "						

Out

#5 Bath #6 disc-

transferred to #3 Bath
account low amps. Bottom of bath
some crystals in anode chamber.

Start June 27. 20. 5 P.M.

Finish " 28. 20. 9 P.M.

Total Amps = 858

amps = 52

Average Amps = 16.5

#5 Bath
Start 1/28, 10.

#7 disc.
after checking out prestate
and anode chamber, put
back old prestate anode after
washing same.

Time	Sp. br.	Volts	Amper	Temp	Total
1:30	1162	9.5	15	80	
5 "	1165	9.5	16	78	16
6 "	1165	9.5	17	80	33
7 "	1165	9.5	16	80	49
8 "	1165	9.5	16	80	65
9 "	1165	9.5	16.5	80	81
10 "	1165	9.5	16.5	80	98
11 "	1165	9.5	16.5	80	114
12 "	1165	7.5	16.5	80	131
1:45	1165	9.5	16.5	81	147
2:00	1165	9.5	16.5	81	164
3:00	1165	9.5	16.5	82	180
4:00	1165	9.5	16.5	82	197
5:00	1165	9.5	16.5	81	213
6:00	1165	9.5	16	80	229
7:00	1165	9.5	16	82	245
8:00	1165	9.5	16.5	82	262
9:00	1165	9.5	16.5	87	278
10:00	1165	9.5	16.5	86	294
11:00	1165	10-	17	90	311
12:00	1165	10.	18	86	329
1:00	1165	10.	17	90	346
2:00	1165	10	17.5	90	363
3:00	1165	10	17.5	90	380

Raised 1/2 v. at 10:55 AM

#5 Bath

#7 lease
after sleeping out crystals
and made chamber part with old
series anode, after washing over

Pressure	Sp. K ₂	Volts	Amp	Temp	Total
4 PM	1165	10	17	88	397
5 "	1165	10	17.5	87	414
6 "	1165	10	17.5	85	432
7 "	1165	10	17.5	85	449
8 "	1165	10	17	85	466
9 "	1165	10	16.5	85	483
10	1165	10	16.5	85	494
11	1165	10	16	85	505
2200	1165	10	16	83	521
11 AM	guno	30			
1200	1165	10	17	82	538
2000	1165	10	17	82	555
3000	1165	10	17	82	572
4000	1165	10	15	81	588
5000	1165	10	15	81	604
6000	1165	10	17	81	621
7000	1165	10	17	81	638
8000	1165	10	16	81	654
9 AM	1165	10	16	80	670
10 "	1165	10	16	82	686
11 "	1165	10	16	83	702
12 "	1165	10	16	80	718
1 PM	1165	10	16	85	734
2 "	1165	10	16	82	750
3 "	1165	10	16	81	766

$$52.5 \overline{) 261.4} \quad (16.4$$

$$\begin{array}{r} 52.5 \overline{) 261.4} \\ \underline{336.0} \\ 35.4 \end{array}$$

~~$$52.5 \overline{) 261.4} \quad (16.4$$~~
~~$$\begin{array}{r} 52.5 \overline{) 261.4} \\ \underline{336.0} \\ 35.4 \end{array}$$~~

#5 Ratti #7 Xena
 Start 4:30 PM
 Finish 9: PM
 Total Amps = 861
 Average Amps = 52 1/2
 Voltage = 16.4

#5 Ratti

3.0, 2.0

4 PM 11:05

5 - 11:05

6 - 11:05

7 - 11:05

8 - 11:05

9 AM 11:05

#7 Xena, after clearing out apartment and moving things out of old place after finishing same.

Voltage	Amps	Time	Total
16	16	80	782
10	16.5	80	798
10	16	80	814
10	16	80	830
10	16	80	846
10	15	80	861

Out

Note

Thin Copper strap
feed anode -

Wash rag screen

Wash rag, white, color
about 4 mesh,

Wk 5 Bath 1st Lac in

JULY	Sh	Volts	Imp	Imp	Total
3 PM	1165	9-5	16	80	
100	1165	9-5	16	80	16
200	JULY	4-5			
200	1165	9-5	16	80	32
300	1165	9-5	18	80	50
400	1165	9-5	18	83	68
500	1165	9-5	18	83	86
600	1165	9-5	18	83	104
700	1165	9-5	18	83	122
800	1165	9-5	18	83	140
900	1165	9-5	18	83	158
1000	1165	9-5	18	83	176
1100	1165	9-5	18	83	194
1200	1165	9-5	18	83	212
1300	1165	9-5	18	83	230
1400	1165	9-5	18	83	248
1500	1165	9-5	18	83	266
1600	1165	9-5	18	83	284
1700	1165	9-5	18	83	302
1800	1165	9-5	18	83	320
1900	1165	9-5	18	83	338
2000	1165	9-5	18	83	356
2100	1165	9-5	18	83	374
2200	1165	9-5	18	83	392
2300	1165	9-5	18	83	410
2400	1165	9-5	18	83	428
2500	1165	9-5	18	83	446
2600	1165	9-5	18	83	464
2700	1165	9-5	18	83	482
2800	1165	9-5	18	83	500
2900	1165	9-5	18	83	518
3000	1165	9-5	18	83	536
3100	1165	9-5	18	83	554
3200	1165	9-5	18	83	572
3300	1165	9-5	18	83	590
3400	1165	9-5	18	83	608
3500	1165	9-5	18	83	626
3600	1165	9-5	18	83	644
3700	1165	9-5	18	83	662
3800	1165	9-5	18	83	680
3900	1165	9-5	18	83	698
4000	1165	9-5	18	83	716
4100	1165	9-5	18	83	734
4200	1165	9-5	18	83	752
4300	1165	9-5	18	83	770
4400	1165	9-5	18	83	788
4500	1165	9-5	18	83	806
4600	1165	9-5	18	83	824
4700	1165	9-5	18	83	842
4800	1165	9-5	18	83	860
4900	1165	9-5	18	83	878
5000	1165	9-5	18	83	896

Not a mesh

Cleaned up 041
 (Circuit) Cal. 100 - 052
 230

Rim-Hol to 745 Amps.

46 | 765 | 16.5
 380
 240
 230

after 20 minutes back fire from queue test.
 Not turned

Bath 7:5 765 amper
 4.1 am plating

Cal. 100 outside least,

100 1070 #5 Bath

Start July 3, 20, 11 PM. #1 disc

Finish July 5, 20, 9 PM.

Total Amps 765

" hours 46

Average Amps 16.5

#5 Bath 1st line in

JULY	Volts	Amps	Temp	Volts
PM	Volts	Amps	Temp	Volts
11:00	116.5	9-5	16-5	81
12:00	116.5	9-5	16-5	81
AN	116.5	9-5	16-5	81
1:00	116.5	9-5	16-5	81
2:00	116.5	9-5	16-5	81
3:00	116.5	9-5	16	81
4:00	116.5	9-5	15-5	81
5:00	116.5	9-5	15-5	81
6:00	116.5	9-5	15-5	81
7:00	116.5	9-5	15-5	81
8:00	116.5	9-5	15-5	81
9:00	116.5	9-5	15-5	81
10:00	116.5	9-5	16	81
11:00	116.5	9-5	16	81
12:00	116.5	9-5	16 1/2	81
1:00	116.5	9-5	16	81
2:00	116.5	9-5	15 1/2	81
3:00	116.5	9-5	16	81
4:00	116.5	9-5	16	81
5:00	116.5	9-5	16	81
6:00	116.5	9-5	16 1/2	81
7:00	116.5	9-5	16 1/2	81
8:00	116.5	9-5	16 1/2	81
9:00	116.5	9-5	16 1/2	81
10:00	116.5	9-5	16 1/2	81
11:00	116.5	9-5	16 1/2	81
12:00	116.5	9-5	16 1/2	81

not a test in

not

not a test in

not

46 hrs

Mounted in 105 edge was
rounded off

Disc, revolve 1 1/2 R.P.M.

Added 500 general bath dope to
floating solution 11th July 7

July 6 Bath No 5- 2 disc in

	Spec-	Dolls	amf	Temp	Rate
2-30	1165	9-5	14	80	
3-30	1165	9-5	14	80	14
4-30	1165	9-5	15	83	24
5-30	1165	9-5	16	83	45
6-30	1165	9-5	16	83	61
7-30	1165	9-5	16-5	84	77
8-30	1165	9-5	16-5	84	94
9-30	1165	9-5	16	84	110
10-30	1165	9-5	16	84	126
11-30	1165	7-5	10-5	7	14
12-30	1165	9-5	15-5	84	
AH	July 7 th				
1-30	1165	7-5	15-5	84	
2-30	1165	7-5	15-5	84	
3-30	1165	7-5	15-5	84	
4-30	1165	7-5	15-5	84	
5-30	1165	9-5	15-5	84	205
6-30	1165	9-5	15-5	84	220
7-30	1165	9-5	15-5	84	236
8-30	1165	9-5	16	85	252
9-30	1165	9-5	15	85	277
10-30	1165	9-5	15-5	85	313
11-30	1165	9-5	15	83	328
12-30	1165	9-5	15	82	343
1-30	1165	9-5	14-5	82	357

#5 Bath

2nd release min

Volts	Sp. gr.	Volts	Amps	Temp	Total
2.30	1165	9.5	15	83	372
3.30	1165	9.5	15	84	387
4.30	1165	9.5	15	85	402
5.30	1165	9.5	15	85	417
6.30	1165	9.5	15	84	432
7.30	1165	9.5	15	84	447
8.30	1165	9.5	15	83	462
9.30	1165	9.5	14.5	83	476
11.30	1165	9.5	15	82	491
11.30	1165	9.5	15	82	506
12.30	1165	9.5	15	82	521
AM	1165	9.5	15	82	536
1.30	1165	9.5	15	82	551
2.30	1165	9.5	15	82	566
3.30	1165	9.5	15	82	581
4.30	1165	9.5	15	82	596
5.30	1165	9.5	15	82	611
6.30	1165	9.5	14.5	82	626
7.30	1165	9.5	15	82	641
8.30	1165	9.5	15	82	656
9.30	1165	9.5	16	80	671
10.30	1165	9.5	15.5	80	686
11.30	1165	9.5	15	82	701
12.30	1165	9.5	14.5	82	716
1.30	1165	9.5	14.5	82	731

49 | 745 (15.2)
 49
 2.5
 2.5
 100

#5 Bath 2nd disc.

Mould Edge was rounded off.
 Also added 500 general bath to p.l.
 Start. July 6, 20-- 2:22 PM.
 Finish July 8, 20-- 3:22 PM.
 Total Amp. 745
 " hum. 49
 Average a/p 15.2

#5 Bath
 July 8, 20.

Wt.	Sp. Gr.	Volt	Amp	Hum	Total
2.5	1165	9.5	14.5	80	730
3.0	1165	9.5	14.5	80	745

2nd disc.

Out to make
 room for disc.
 which was
 sorted.

Disc was suspended by wire
into copper bath
Rubber coated

Remarks: 6 holes in disc
no high plated.

#5 Bath 3rd disc.
Start July 8, 20, 330 PM.
Plate Sp. Vol. Amp. Temp. Time
1165 9.5 10.5 80
1165 9.5 130 80 13. Out

Added 10" gravel both slope to
slopper plot, pol. at 11:45 July 9.

سے مدد فرمائی

Wt.	Sp. H.	Wt.	Ampl.	Temp.	Total
5 1/2 in.	1165	9-5	14-5	80	
6 1/2 in.	1165	9-5	14-5	81	14
7 1/2 in.	1165	9-5	14-5	80	29
8 1/2 in.	1165	9-5	14-5	80	43
9 1/2 in.	1165	9-5	14-5	80	58
10 1/2 in.	1165	9-5	14	80	72
11 1/2 in.	1165	9-5	14	80	86
12 1/2 in.	1165	9-5	14	80	100

AM 22

1.11	11.5	7.5	14	80
2.11	11.5	7.5	14	80
3.11	11.5	7.5	14	80
4.11	11.5	7.5	14	80
5.11	11.5	7.5	14	80
6.11	11.5	7.5	14.5	81
7.11	11.5	7.5	14	80
8.11	11.5	7.5	14.5	81
9.11	11.5	7.5	14.5	81
10.11	11.5	7.5	14.5	81
11.11	11.5	7.5	14.5	81
12.11	11.5	7.5	14.5	81
1.12	11.5	7.5	14.5	81
2.12	11.5	7.5	14.5	81
3.12	11.5	7.5	14.5	81
4.12	11.5	7.5	14.5	81
5.12	11.5	7.5	14.5	81
6.12	11.5	7.5	14.5	81
7.12	11.5	7.5	14.5	81
8.12	11.5	7.5	14.5	81
9.12	11.5	7.5	14.5	81
10.12	11.5	7.5	14.5	81
11.12	11.5	7.5	14.5	81
12.12	11.5	7.5	14.5	81
1.13	11.5	7.5	14.5	81
2.13	11.5	7.5	14.5	81
3.13	11.5	7.5	14.5	81
4.13	11.5	7.5	14.5	81
5.13	11.5	7.5	14.5	81
6.13	11.5	7.5	14.5	81
7.13	11.5	7.5	14.5	81
8.13	11.5	7.5	14.5	81
9.13	11.5	7.5	14.5	81
10.13	11.5	7.5	14.5	81
11.13	11.5	7.5	14.5	81
12.13	11.5	7.5	14.5	81
1.14	11.5	7.5	14.5	81
2.14	11.5	7.5	14.5	81
3.14	11.5	7.5	14.5	81
4.14	11.5	7.5	14.5	81
5.14	11.5	7.5	14.5	81
6.14	11.5	7.5	14.5	81
7.14	11.5	7.5	14.5	81
8.14	11.5	7.5	14.5	81
9.14	11.5	7.5	14.5	81
10.14	11.5	7.5	14.5	81
11.14	11.5	7.5	14.5	81
12.14	11.5	7.5	14.5	81
1.15	11.5	7.5	14.5	81
2.15	11.5	7.5	14.5	81
3.15	11.5	7.5	14.5	81
4.15	11.5	7.5	14.5	81
5.15	11.5	7.5	14.5	81
6.15	11.5	7.5	14.5	81
7.15	11.5	7.5	14.5	81
8.15	11.5	7.5	14.5	81
9.15	11.5	7.5	14.5	81
10.15	11.5	7.5	14.5	81
11.15	11.5	7.5	14.5	81
12.15	11.5	7.5	14.5	81
1.16	11.5	7.5	14.5	81
2.16	11.5	7.5	14.5	81
3.16	11.5	7.5	14.5	81
4.16	11.5	7.5	14.5	81
5.16	11.5	7.5	14.5	81
6.16	11.5	7.5	14.5	81
7.16	11.5	7.5	14.5	81
8.16	11.5	7.5	14.5	81
9.16	11.5	7.5	14.5	81
10.16	11.5	7.5	14.5	81
11.16	11.5	7.5	14.5	81
12.16	11.5	7.5	14.5	81
1.17	11.5	7.5	14.5	81
2.17	11.5	7.5	14.5	81
3.17	11.5	7.5	14.5	81
4.17	11.5	7.5	14.5	81
5.17	11.5	7.5	14.5	81
6.17	11.5	7.5	14.5	81
7.17	11.5	7.5	14.5	81
8.17	11.5	7.5	14.5	81
9.17	11.5	7.5	14.5	81
10.17	11.5	7.5	14.5	81
11.17	11.5	7.5	14.5	81
12.17	11.5	7.5	14.5	81
1.18	11.5	7.5	14.5	81
2.18	11.5	7.5	14.5	81
3.18	11.5	7.5	14.5	

41 | 609 | 14.8
 41 | 41 |
 168
 350
 328

Start July 9, 20 - 5:10 PM.
 Finish 10, 20 - 10:11 AM.
 Total Amps 609
 " broods 41
 Average Amps 14.8

#5 Bath

4 chicks
 60 EE Rubber

Time	Sp	Volts	Amps	Temp	Total	Remarks
5:10	116.5	9.5	15.5	80	351	Test for broods
6:10	116.5	9.5	15.5	80	367	on load of chicks
7:10	116.5	9.5	15.5	80	382	Test #2
8:10	116.5	9.5	15.5	80	398	
9:10	116.5	9.5	15	80	413	
10:11	116.5	9.5	15	80	428	
11:10	6.5	9.5	15	80		
12:10	6.5	9.5	15	80		
1:10	116.5	9.5	15	80		
2:10	6.5	9.5	15	80		
3:10	6.5	9.5	15	80		
4:10	6.5	9.5	15	80		
5:10	6.5	9.5	15	80		
6:10	6.5	9.5	15	80		
7:10	6.5	9.5	15	80		
8:10	6.5	9.5	15	80		
9:10	116.5	9.5	15	80	573	
10:11	116.5	9.5	16	80	609	Take out for Mr. Edson inspection to take off broods

7745 Bath

60cc Rutter Coated Zinc 2nd time
in stand at 100 PM July 10, 20
for 750 Amp

JULY	Slb	Volts	Amp	Amp	Notes
10 PM	1165	9-5	14	80	
100	1165	9-5	14	80	14
200	1165	9-5	15	80	29
300	1165	9-5	15.5	80	44
400	1165	9-5	16	80	60
5	1165	9-5	15.5	80	76
6	1165	9-5	15-5	80	91
7	1165	9-5	15-5	80	106
8	1165	9-5	15-5	80	122
9	1165	9-5	15-5	80	137
10	1165	9-5	15-5	80	
11	1165	9-5	16	80	
12	1165	9-5	16	80	
AM	July	11, 20			
100	1165	7-5	16		
200	1165	7-5	15-5		
300	1165	7-5	15-5		
400	1165	7-5	15-5		
500	1165	7-5	15-5		
600	1165	7-5	15		161
700	1165	7-5	15		176
800	1165	7-5	15		191
900	1165	7-5	16	80	207
1000	1165	7-5	18	80	225
1100	1165	7-5	16-5	80	241
12 PM	1165	9-5	16-5	80	257

10.00 AM Rutter Coated Zinc scrap pieces

He 5 Bath 60°C Pullen Cove

July	Ln	Volts	Amperes	Watts
11 PM				
1:00	1165	9.5	16.5	86
2:00	1165	9.5	16.5	83
3	1165	9.5	17	80
4	1165	9.5	17	80
5	1165	9.5	17	80
6	1165	9.5	17.5	81
7	1165	9.5	17.5	81
8	1165	9.5	17.5	81
9	1165	9.5	17.5	81
10	1165	9.5	17.5	81
11	1165	9.5	17.5	81
12	1165	9.5	17.5	81
AM				
1:00	1165	9.5	17	81
2:00	1165	9.5	17	81
3:00	1165	9.5	17	81
4:00	1165	9.5	17	81
5:00	1165	9.5	17	81
6:00	1165	9.5	17	81
7:00	1165	9.5	17	81
8:00	1165	9.5	17	81
9:00	1165	9.5	17	81
10:00	1165	9.5	17	81
11:00	1165	9.5	17	81
12:00	1165	9.5	17	81

50 | 806 | 16.
 50
 306

60 °C Rubber coated
 disc.

Start July 10, 20 at 1 P.M.
 Finish " 12, " " 2³⁰
 Total Amps 806
 " heart 50
 Average Amps 16.1

#5 Bath

60 °C Rubber
 coated disc

July 12, 20	Sp	Dr	V-F	Amp	Temp	Total
1 P.M.	1165	95	175	80	182	
2	1165	95	17	80	199	
2 ³⁰	1165	95	17	80	806	Out

15.5 Amps Ni Plated

Put in dry, Copper

Gradually to 3.6 Amps at the
9th notch, then full current.

#5 Bath

Started July 12, 20. 3 P.M.

Time	Sp	Wt	Volts	Amps	Temp	Wt L
3 P.M.	1165	9.5	17.5			
4	1170	9.5	17.5	80	18	
5	1165	9.5	19.	80	37	
6	1165	9.5	18.5	80	55	
7	1165	9.5	17.5	80	73	
8	1165	9.5	17.5	80	90	
9	1165	9.5	17.5	81	108	
10	1165	9.5	18.	83	126	
11	1165	7.5	18.	83	144	
12	1165	7.5	17.5	83	161	
July 13, 20.						
1 P.M.	1165	9.5	14	81	171	
2:00	1165	7.5	14	81	181	
3:00	1165	7.5	16.5	81	191	
4:00	1165	9.5	16.5	81	201	
5:00	1165	7.5	16.5	81	211	
6:00	1165	9.5	16.5	81	221	
7:00	1165	7.5	16	82	233	
8:00	1165	9.5	17.	82	310	
9:00	1165	9.5	16.5	82	327	
10:00	1165	9.5	16.5	83	341	
11:00	1165	9.5	16.5	83	358	
12-1 P.M.	1165	9.5	17.5	83	375	
2:00	1165	9.5	17	85	392	

113) 718
 12 x 2
 200
 201

(16.7)

Start
 Finish
 In Cal. Amps 718
 " " " 43
 Out. Amp 167

#5 Bath.

July 12 24.					
Time	Sp. Dr.	Volt	Amp	Time	Sp. Dr.
3:00	1165	9.5	16.5	8.5	409
4	1165	9.5	16.5	8.5	426
5	1165	9.5	16	8.5	442
6	1165	9.5	17	8.0	459
7	1165	9.5	17	8.0	476
8	1165	9.5	16.5	8.5	492
9	1165	9.5	16.5	8.4	509
10	1165	9.5	16.5	8.4	525
11	1165	9.5	17	8.3	542
12	1165	9.5	17	8.3	559
ATM	1165	9.5	16	8.3	575
1:06	1165	9.5	16	8.3	592
2:06	1165	9.5	16	8.3	609
3:06	1165	9.5	16	8.3	625
4:06	1165	9.5	16	8.3	642
5:06	1165	9.5	16	8.3	659
6:06	1165	9.5	16	8.3	675
7:06	1165	9.5	16	8.3	692
8:06	1165	9.5	16	8.3	709
9	1175	9.5	16.5	8.0	725
10	1165	9.5	16.5	8.0	742

Cent

Rev. 2 min in hi Bath, no current
143 amps in hi bath &
dash seawater in which
rinse with distilled water and
put in storage in copper
full cover. (ov.)

115 Bath				1230	
Time	Sp	Vol	Temp	Total	Notes
2:30	116.5	9.5	16.5	85	
3:30	116.5	9.5	17	87	17
4:30	116.5	9.5	16.5	85	34
5:30	116.5	9.5	16.5	85	
6:30	116.5	9.5	16.5	85	
7:30	116.5	9.5	16.5	85	
8:30	116.5	9.5	16.5	85	
9:30	116.5	9.5	16.5	85	
10:30	116.5	9.5	16.5	85	
11:30	116.5	9.5	16.5	85	
12:30	116.5	9.5	16.5	85	
AM	116.5	9.5	16.5	85	
1:30	116.5	9.5	16.5	85	
2:30	116.5	9.5	16.5	85	
3:30	116.5	9.5	16.5	85	
4:30	116.5	9.5	16.5	85	
5:30	116.5	9.5	16.5	85	
6:30	116.5	9.5	16.5	85	
7:30	116.5	9.5	16.5	85	
8:30	116.5	9.5	16.5	85	
9:30	116.5	9.5	16.5	85	
10:30	116.5	9.5	16.5	85	
11:30	116.5	9.5	16.5	85	
12:30	116.5	9.5	16.5	85	
1:30	116.5	9.5	16.5	85	
2:30	116.5	9.5	16.5	85	
3:30	116.5	9.5	16.5	85	
4:30	116.5	9.5	16.5	85	
5:30	116.5	9.5	16.5	85	
6:30	116.5	9.5	16.5	85	
7:30	116.5	9.5	16.5	85	
8:30	116.5	9.5	16.5	85	
9:30	116.5	9.5	16.5	85	
10:30	116.5	9.5	16.5	85	
11:30	116.5	9.5	16.5	85	
12:30	116.5	9.5	16.5	85	
1:30	116.5	9.5	16.5	85	
2:30	116.5	9.5	16.5	85	
3:30	116.5	9.5	16.5	85	
4:30	116.5	9.5	16.5	85	
5:30	116.5	9.5	16.5	85	
6:30	116.5	9.5	16.5	85	
7:30	116.5	9.5	16.5	85	
8:30	116.5	9.5	16.5	85	
9:30	116.5	9.5	16.5	85	
10:30	116.5	9.5	16.5	85	
11:30	116.5	9.5	16.5	85	
12:30	116.5	9.5	16.5	85	
1:30	116.5	9.5	16.5	85	
2:30	116.5	9.5	16.5	85	
3:30	116.5	9.5	16.5	85	
4:30	116.5	9.5	16.5	85	
5:30	116.5	9.5	16.5	85	
6:30	116.5	9.5	16.5	85	
7:30	116.5	9.5	16.5	85	
8:30	116.5	9.5	16.5	85	
9:30	116.5	9.5	16.5	85	
10:30	116.5	9.5	16.5	85	
11:30	116.5	9.5	16.5	85	
12:30	116.5	9.5	16.5	85	
1:30	116.5	9.5	16.5	85	
2:30	116.5	9.5	16.5	85	
3:30	116.5	9.5	16.5	85	
4:30	116.5	9.5	16.5	85	
5:30	116.5	9.5	16.5	85	
6:30	116.5	9.5	16.5	85	
7:30	116.5				

42) 758 (18.
 42
 338

Total Amps 758
 " news 42
 Average Amps 18

# 5 Bath					
Time	Sp. Sv	Voltage	Amps	Temp	Total
1:15	20				
2:00	1165	9.5	17	80	399
3:00	1165	9.5	16.5	80	416
4:00	1165	9.5	16.5	80	433
5:00	1165	9.5	17.5	80	450
6:00	1165	9.5	18	83	468
7:00	1165	9.5	18.5	82	487
8:00	1165	9.5	20	82	507
9:00			20		527
10:00			21		548
11:00	1165		21.5		569
12:00					
1:00	1165	16.20			
2:00	1165	7.5			
3:00					
4:00					
5:00					
6:00					
7:00					
8:00					

Cent

Egg. for knots & trees.

High level female

Considerably reduced edge disc.

Part in dry

Revolving in dry, then full current in

Ran in 124 Amps in bath.

in the bath.

Parkies Coloper bath dry.

5 pecks of lichen overlaid disc.

Part on full current.

Tree started after 12 hr.

in Coloper bath.

5 Bath

Started July 16 20

Time Sp. Volts Amps Temp Total

11 PM 1165 9.5 16.5 89

12 1165 9.5 17 89

1 AM 1165 9.5 18 90

2 1165 9.5 18 90

3 1165 9.5 18 90

4 1165 9.5 20 90

5 1165 9.5 20 90

6 1165 9.5 19 90

7 1165 9.5 18.5 90

8 1165 9.5 18.5 93

9 1165 9.5 19 93

10 1165 9.5 18.5 93

11 1165 9.5 17 93

12 1165 9.5 17 90

1 1165 9.5 17 90

2 1165 9.5 18 95

3 1165 9.5 18 95

4 1165 9.5 18 95

5 1170 9.5 18 95

6 1170 9.5 18 95

7 1170 9.5 18 90

8 1170 9.5 17 90

9 1170 9.5 17 90

10 1170 9.5 17 89

11 1170 9.5 17 89

@ 11 - PM.

Temp Total

89 7

89 7

90 35

90 53

90 71

90 91

90 111

90 130

90 148

93 167

93 186

93 204

93 221

90 238

90 255

95 275

95 291

95 307

95 324

95 345

90 363

90 381

90 398

90 415

89 432

In period =

from #2 in

bath in

period in

in period

in period

in period

in period

in period

in period

in period

in period

in period

in period

in period

in period

in period

in period

in period

in period

Total Amps 749
 " hours 43
 Average Amp 17.5 Amp

Bath No 5

July 17-20

Time	Volts	Amps	Watts
12:00	1170	9.5	11115
1	1170	9.5	11115
2	1170	9.5	11115
3	1170	9.5	11115
4	1170	9.5	11115
5	1170	9.5	11115
6	1170	9.5	11115
7	1170	9.5	11115
8	1170	9.5	11115
9	1170	9.5	11115
10	1170	9.5	11115
11	1170	9.5	11115
12	1170	9.5	11115
1	1170	9.5	11115
2	1170	9.5	11115
3	1170	9.5	11115
4	1170	9.5	11115
5	1170	9.5	11115
6	1170	9.5	11115

Out 43 hours

Traces started 4 hours
after supper.

Time	Ln	Volts	Imp	Imp	Volts
7:40	1170	9-5	17	94	
8:30	1170	9-5	17	90	17
9:30	1170	9-5	17	90	34
10:30	1170	9-5	17	90	51
11:30	1170	9-5	17	90	
12:30	1170	9-5	17	90	
1:30	1170	9-5	17	90	
2:30	1170	9-5	17	90	
3:30	1170	9-5	17	90	
4:30	1170	9-5	17	90	
5:30	1170	9-5	17	90	
6:30	1170	9-5	17	90	
7:30	1170	9-5	17	90	
8:30	1170	9-5	17	90	
9:30	1170	9-5	17	90	
10:30	1170	9-5	17	90	
11:30	1170	9-5	17	90	
12:30	1170	9-5	17	90	
1:30	1170	9-5	17	90	
2:30	1170	9-5	17	90	
3:30	1170	9-5	17	90	
4:30	1170	9-5	17	90	
5:30	1170	9-5	17	90	
6:30	1170	9-5	17	90	

Transferred
July 18, 20
78amps
in Plat

143) 744.7 / 17.3
 317
 301
 169

Total Amps 747
 Average Amps 43
 Average Amps 17.3

#5 Bath

July 19th 88

Roach

Time PM	Temp	Folts	Amps	Temp	Total
7:30	116.5	9.5	17	85	414
8:30	116.5	9.5	17	85	431
9:30	116.5	9.5	16.5	85	447
10:30	116.5	9.5	17	90	464
11:30	116.5	9.5	17	92	481
12:30	116.5	9.5	17	92	498
1:30	116.5	9.5	17	92	515
2:30	116.5	9.5	17	91	532
3:30	116.5	9.5	17	91	549
4:30	116.5	9.5	17	91	566
5:30	116.5	9.5	17	91	583
6:30	116.5	9.5	18	90	600
7:30	117.0	9.5	18	90	617
8:30	117.0	9.5	18	90	634
9:30	116.5	9.5	18	90	651
10:30	116.5	9.5	18	90	668
11:30	116.5	9.5	18.5	95	685
12:30	116.5	9.5	18	93	702
1:30	116.5	9.5	18	92	719
2:30	116.5	9.5	18	92	736

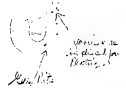
Cont

Jan. 12, 21

Hi Expt #1

Sp	Temp	Vit	Qty	Total	Re	Remarks
2	122	110	B	5		gased considerable
300	"	"	"	2.0	2 1/2	By looks as if the
300	"	"	"	2.0	22 1/2	gls bubble other
400	"	"	"	2.0	42 3/4	and made pits
500	"	"	"	2.0	62 3/4	5/1000 thick

Upper 3 1/2 hrs
5/1000 thick



3" Cathode to anode
1/4" Baffle under cathode
1 1/2" anode surface
9 1/4" hole in anode
disc covered with
linen
50 R.P.M. on rotation
125 cc of gas at 110°F

Jan. 13, 21

in Effort #2

Time	Temp	Vol	Comp	Std	Remarks
280	92.5	10.5	11.5	5	
300	"	"	11.5	20	2 1/2 New plate
430	"	"	11.5	20	2 1/2 #1 Effort
530	"	"	11.5	20	3 1/2
630	"	"	11.5	20	4 1/2
730	"	"	11.5	20	5 1/2 Cent

Caliper
6 1/2 / 1000



Gas pit

Jan. 14, 21

in #3 Effort

Time	Temp	Vol	Comp	Std	Remarks
280	92.5	10.5	11.5	5	
300	"	"	11.5	20	5
430	"	"	11.5	20	25
530	"	"	11.5	20	45
630	"	"	11.5	20	65
730	"	"	11.5	20	85

Gas pits removed
re-setting place

Caliper
7 / 1000

Mr. Epper #4

Time	Sp. 2	Temp	Volt	Amp	Total	hrs.	Remarks
12:30	1225	105	12	5			slip of #1 Except
1:00	"	110	"	20	2	1	raised baffle to
2:30	"	"	"	20	22	2	within 1/2" cathode
3:30	1230	"	"	20	42	3	See if it will slip
4:30	"	"	"	20	62	4	any of the pits from
5:00	1235	"	"	20	82	5	brighter growing.

6/1000

Mr. Epper #5

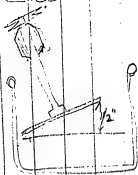
Time	Sp. 2	Temp	Volt	Amp	Total	hrs.	Remarks
12:30	1235	105	12	5			slip of #1 Except
1:00	"	110	"	20	2	1	raised baffle to
2:30	"	"	"	20	22	2	within 1/2" cathode
3:30	1230	"	"	20	42	3	See if it will slip
4:30	"	"	"	20	62	4	any of the pits from
5:00	1235	"	"	20	82	5	brighter growing.

5 1/2 / 1000

Jan. 17, 21. M. Exper # 6

Time	Temp	Volt	Amper	Time	Remarks
7:1	119.5	90	11.5	5	1
7:2	"	91	11.5	20	2
7:3	"	92	12.0	25	3
7:4	"	95	12.5	20	4
7:5	100	12.5	20	65	5
7:6	118.5	10%	12.5	20	85

7 1/2 / 1000
Rough Mott. surface



Remarks
Duplicate of # 4
Except Temp. at
started about 10
out what temp. was
is still will not
without heat loss

if it is possible to
eliminate the action
of Acetic Acid and
induced off by heat.

Disc plate 1000
Spittle, the gas
are uniform all over
the disc



In favor of "disc 1/2" to the foot.
Reason because some models have a
hollow center which holds an air pocket
that does not plate

Jan. 18, 21. M. Exper # 7

Time	Temp	Volt	Amper	Time	Remarks
7:1	118.5	95	11.5	5	1
7:2	"	98	13	20	2
7:3	"	100	13.5	20	3
7:4	119.5	103	13.5	20	4
7:5	105	"	20	65	5
7:6	120	108	14	20	85

Remarks
Temp started 95
Duplicate of # 6
Out

Gas gets through
out entire disc
Plating not better



8 / 1000

Jan 18, 21.

Mr Epper #8

Time	Rev	Temp	Volt	Am	Dist	Rev
6 PM	1190	105	14	85	5	1
7	"	"	"	80	25	2
8	"	105	"	80	25	2
9	"	"	"	80	45	3
10	"	"	"	80	65	4
11	"	"	"	80	85	5

Remarks
Start Temp 105

Cont
Out.

Less gas pits than 7/10
Gas pits more numerous
but fewer, more in
center than outside

7/1000



Jan 19, 21.

Mr Epper #9

Time	Rev	Temp	Volt	Am	Dist	Rev
6 PM	1180	85	85	5	5	1
7	"	88	8.5	20	5	1
8	"	93	10	20	25	2
9	"	98	10	20	45	3
10	"	102	10	20	65	4
11	"	108	10	20	85	5

Remarks
Speed 80 R.P.M.

Cont.

Stop locked no one to come in
unless keys given by night watchman to
check into gas in and out.

in Eggs #10

Single	Sp	Emb	Temp	Wt	Ampl	Stel	hrs.
4	1190	108	10.5	10			
5	"	105	10.5	20	5	1	
6	"	106	10.5	20	25	2	
7	"	106	10.5	20	45	3	
8	"	106	10.5	20	65	4	
9	"	105	"	20	85	5	

Remarks
Slurp of #9 Eggs
Eggs at Temp. at 108°F.

added 100 cc Acetic
also had the gas
before adding acetic

at finish only when
gas fits observed
finished disc.

Looks good.



6/1000

Jan. 20, 21.

Single	Sp	Emb	Temp	Wt	Ampl	Stel	hrs.
4	1190	95	10.5	5			
5	"	98	10	20	5	1	
6	"	103	10	20	25	2	
7	"	108	"	20	45	3	
8	"	108	11	20	65	4	
9	"	"	10.5	20	85	5	
10	"	"	10.5	20	105	6	

Eggs #11

Remarks
Slurp of #
10 Eggs.

added 100 cc Acetic
at start
This seems to do the
trick, looked at disc
after 12 hours sitting
looked perfect.

quite some gas fits
86% fits at 100% pure



Jan. 20, 21 Experiment 12

Time	Sp. Gravity	Wt. Sample	Sold	Wt.	Remarks
12	1190	105	10	10	
1	"	107	"	10	Added 100 cc Acetic
2	"	"	"	10	Experiment for
3	"	"	"	10	Mr Edison as before
4	"	119	"	10	memo 8 to 10 Amps
5	"	12	10	50	for six hours then for
6	"	11.5	10	60	in and back up with

copper 75 amper both
 while stripped and then
 want to take test
 prints 2 to see if
 any trouble arise
 Model #7418 & has for
 its previous services.

Get #78 tested
 Copper Experiment

Inch	Rev	Alt	Temp	Time	Rev
1135	195	102	11	76	
1230		105		30	10 1
130				30	40 2
230				30	70 3
3	"	110	"	15	85 3/4

Expt #13

Remarks
Speed 118 R.P.M.

Cent

Cent

Still has quite some
gas pits through them

Caliper 6 / 1000

Inch	Rev	Alt	Temp	Time	Rev
1195	110	11	10		
"	112	11	30	10	1
"	115	11	30	40	2
"	117	11	30	70	3
"	117	"	15	85	3/4

Expt #14

Remarks
New sheets of #13

Cent

Has a few gas pits

The disc ran very
good before at 118 R.P.M. lack of
10 for 1000.
The Edison says finish
discs with Emery finish
machine

Caliper 5 / 1000

Jan. 22, 21.

Egger #15

Time	Pressure	Vt	Temp	Total	Pressure
9:30	120	105	11	10	
10:30	"	"	"	30	10
11:30	1200	110	"	30	40
12:30	"	"	"	30	70
1:30	"	115	"	30	100

Remarks

Discarded working mould which had finished its run

Cents

Pitted all through



The stain mark etc. is due to new pack in hot pol. if it is fine packing it would be seed oil.

Calypso 62/1000

Jan. 22, 21.

Egger #16

Time	Pressure	Vt	Temp	Total	Pressure
11:30	1190	115	14	10	
12:30	"	"	12	30	10
1:30	1195	"	15	30	40
2:30	"	"	15	30	70
3:30	1195	"	15	30	95

Remarks

Mould polished every then 8-4.

Look very good



8/1000

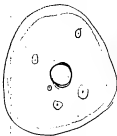
2 Pit marks on inside. Look up Egger #13 & see pit marks before the mould was polished with Emery.

Jan 23, 21.

Expt # 17

In	Sp. p.	Vet	Ang	Total	Ths
10	102	10	10		
11	106	10	30	10	1
12	110	10	30	40	2
1	110	10	30	70	3
130	110	10	15	85	3 1/2

Remarks
Mould cleaned
Emerg then 8-4



Jan 5/4/1920

Jan. 25, 21

Expt 18

In	Sp. p.	Vet	Ang	Total	Ths
10	102	10	10		
11	88	"	30	10	1
12	92	"	30	40	2

Remarks
Mould cleaned
before 8-4
Cuts

Start of solution
Too cold same
loose from disc.



Rechecked all around edge
and loosened
no dents

Jan. 25, 21.

Expt # 19

Time	Sp. No.	Temp.	Volt	Amp.	Stitch	Rev.
2	122	100	10	10		
3	"	"	10	30	10	1
4	"	105	10	30	40	2
5	1220	107	"	30	70	3
6	"	110	"	30	100	4

Remarks
Duplicate of Expt. except mach. was cleaned by hand mach. before start. Cret.

To see what effect cleaning would have before plating.



Seems to give quite a lot same as Expt. # 15. Expt. # 17 further separated.

Angle changed to $3\frac{3}{4}''$ to foot

Expt # 20

Time	Sp. No.	Temp.	Volt	Amp.	Stitch	Rev.
12-22	98	10	10			
"	102	10	30	10	1	
"	105	115	30	40	2	
"	"	115	30	70	3	
"	"	12	15	85	3	

Remarks
Rise on an angle of $3\frac{3}{4}''$ to the foot to eliminate the pit holes. Cret.



Excellent plating only notice one pit in finish, no. 1 inside margin of label.



All of the plating very bright plating, I seemed thinner at the top.

Time	Sp. & Temp	Volt	Amp	Total Hrs
10.	122.5 86	10.	10	
11	" 94	10.	30	10:10

Experiment #21

Remarks

Replaced #18

Wanted to check

effect of such

is cause of such

to strips while pl-

ing when angle

disc was there

cracked line but

not as bad as

#18 Expt.

No Good

Sp. & Temp	Volt	Amp	Total Hrs
122.5 98	9	10	
" 102	"	30	10
" 110	30	40	2
" 115	30	70	3
125	15	85	3 1/2

Experiment #22

Remarks

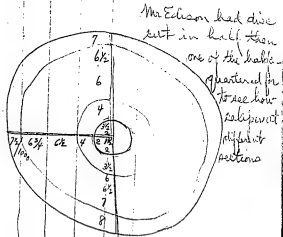
Seems to be

light falling

center since

the angle was

changed on disc



Epper #23

Time	Sp. B.	Imp	Vib	Ampl	Stat	Hz
2	1225	100	10	10		
3	"	"	"	30	10	1
4	"	105	"	30	40	2
5	1230	"	10.5	30	70	3
5:30	1220	"	"	15	85	3 1/2



Vein cut in four sections
Fracture for this and
from anode, is about
closer by $\frac{3}{4}$ the
bright plate
I think is due
some what to
circulation of
solution which on
the back part of disc

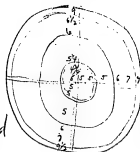


figures is caliper in
1000 of an inch.

Expt# 24

Time	Temp	Vol	Amps	Stal	Hrs
1:30	98	9.	10		
3:30	102	8.5	30	10	1
4:30	105	8.	30	46	2
5:30	108	8.	30	70	3
6:00	112	8.	15	85	3 1/2

Remarks.
Took out the
1/2" maple disc
with liner filter on.

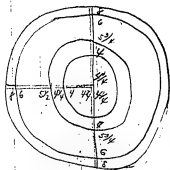


Caliper as marked

Note how close to lip
runs around disc.

Expt # 25

Time	Sp. Temp	Volt	Amp	Total	No.	Remarks
3:30	12.75, 100	6.5	10			duplicate of Expt
4:30	" "	"	20	10	1	#24 This plate
5:30	" 105	7.5	30	40	2	is to make sure
6:30	" 110	8.5	30	70	3	a check,
7-	" "	"	15	85	3 1/2	out



Caliper

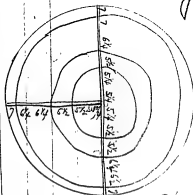
Expt # 26

Remarks

Time	Sp. Temp	Volt	Amp	Total	No.	Remarks
7:25	100	9.5	10			
"	105	"	30	10	1	1st Experiment with
"	108	"	30	40	2	rubber jar also a
"	112	"	30	70	3	10 3/4" x 1 1/2" anode sub.
"	120	112	15	85	3 1/2	out

Anode changed by 10% 11 1/2

This is first disc with new rubber jar,



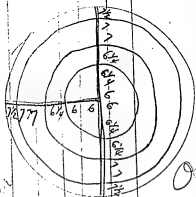
Of

Expt # 27

Remarks
Duplicate #26 Expt

Time	Spd	Int	Volts	Comp	Watt	Hz
4:20	1125	120	95	10	10	1
5:30	"	"	"	30	10	2
6:30	"	"	"	30	40	3
7:30	"	"	"	30	70	3
8-	"	"	"	15	85	3 1/2

act



OK

Caliper

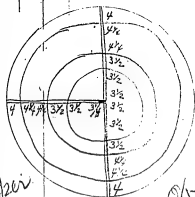
Expt # 28

Remarks

Setup of Expt # 26
Exceeded 1000 at 10 Amp
then boost to 45 Amps
for 1 hour and take up

act	115	95	10
"	120	45	10
"	130	45	55

act



OK

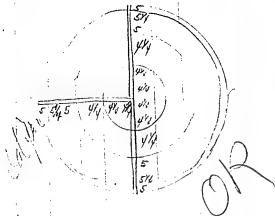
Caliper

Expt #31

Time	Spd	Inj	Volt	Angle	Str	Tha
230	1225	135	10	10		
330	"		60	10	1	
430	"		60	70	2	

Remarks

1 hrs. at 100 kV
 " " 100 kV
 " " 100 kV
 strips
 This is a dup. of
 Expt #30



Feb. 4, 21.

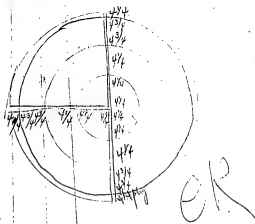
Expt #32

Time	Spd	Inj	Volt	Angle	Str	Tha
1	1225	100	8.5	10		
"	"	108	12	60	10	1
2	"	120	12	60	70	2

Remarks

Out

Raised back pos.
 anode is 2" from
 cathode, fed up flint
 is factory, also ant. pos.
 resistance of 100 ohm.



Feb 5, 21

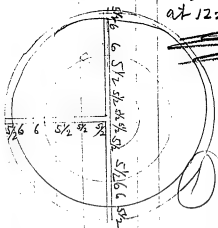
Expt # 33

Time	Spd	Temp	Volt	Amp	Head	Rev
2:5	125	120	8	10		
3:5	"	125	12	60	10	1
4:15	"	135	12	60	70	2
5:15	"	"	12	60	130	3

Duplicate of #3
Expt # 33 from
3 hours
Out.

Extra hour wait
to supper should of
been taken out at
2 hrs.

Excess Acetic Acid
by small heat work
also temp above 1
at 1225 sp. 9 hrs



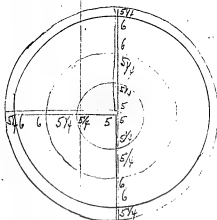
Feb 5, 21.

Expt # 34

Time	Spd	Temp	Volt	Amp	Total	Rev
12:25	115	9	10			
"	120	10	60	10	1	
"	125	10	60	70	2	

Remarks
Anode 1 1/2 from cathode
Free hour close to be
safe we can come
to anode.

Temp Max 140°
Min 120°
gives best Results

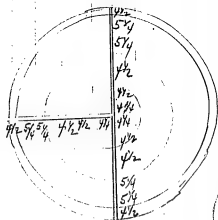


Feb 7, 21

Experiment #35

Time	Sp. Ht.	Temp	Volt	Amph	Feet	Sec
12:15	125	120	9	16		
1:15	"	125	10	60	10	1
2:15	"	125	10	60	70	2

Remarks
Duplicate of #34
Eppens
Curt



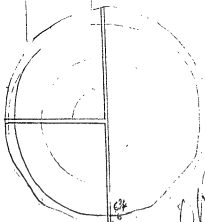
CR

Feb 7, 21

Experiment #36

Time	Sp. Ht.	Temp	Volt	Amph	Feet	Sec
12:15	100		6	10		
1:15	"	105	12	60	10	1
2:15	"	125	12	60	70	2

Remarks
Duplicate of Experiment #34
to see if any big
particles.
ran 15 minutes over a
line was not in to
the discort



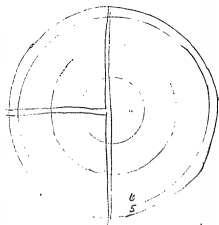
CR

Feb 7, 21

Time	Sp. H. Top	Volt	amp	Stall	Ther.
3:50	120	120	9	10	
4:50	"	125	12	60	10
5:50	"	"	12	60	70

Experiment #37
Remarks
Setup of Experiment #37
to see if any
develop

OK



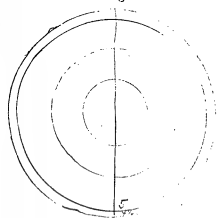
Experiment #38

Sp. H. Top	Volt	amp	Stall	Ther.
120	120	12	10	
"	125	11	60	10
"	130	11	60	70

Remarks
1 1/2" from battery
made + took out
baffle which was
for the swirl.

[Signature]
Baffle was not in
also was painted

Look very good OK



Effort # 39

Time	Sp. in	Sp. ft	Vol	Amph	Total	ft
9:30	1220	125	11	60	10	1
10:30	"	126	11	60	10	2
11:30	"	131	11	60	70	2

Remarks

duplicate of #38
no several baffle
1 1/2 from inside to outside

Look so very good.

5 1/2 / 100 at 100 ft

Effort # 40

Time	Sp. in	Sp. ft	Vol	Amph	Total	ft
12:30	100	9	20			
"	108	9	20		20	1

Remarks.
1 1/2 from inside,
not baffle,
run 1/2 hour and
strip at 20 angles
look for pinkish



2 hole in this disc at
center 1 1/2 / 1000 thick

12:30	108	9	20	20	1
30	"	9	20	20	1

Effort # 41
duplicate of
Effort # 40

Two holes at label



1 1/2 / 1000 thick

Expt #42

Time	Sub	Temp	Vol	Temp	Total	Time
135	1230	110	9	10		
235	"	"	"	10	10	1

Remarks
1/2" from anode,
no bubble.
Run 10amps/hr,
and strip, look for
pin holes.

U.C.

Feb. 10, 26

Expt #44

Time	Sub	Temp	Vol	Temp	Total	Time
135	1230	110	9	30		
235	"	"	"	30	30	1

Remarks.
1/2" from anode
no bubble.
Run 30amps/hr,
and strip, look for
pin holes.

Time	Sub	Temp	Vol	Temp	Total	Time
6	1230	110	9	10		
7	"	"	"	10	10	1

Expt #43
Duplicate of Expt #42
Expt.

M.G. showed Pinholes

Time	Sub	Temp	Vol	Temp	Total	Time
135	1230	110	9	30		
235	"	"	"	30	30	1

Expt #45
Duplicate of Expt #44

Feb 9, 21

Time	Temp	Volts	Amps	Time	Temp
4pm/230	105	9.5	10	10	1
5	110	12	60	60	2
6	11	11	60	60	2

OK

Expt #46

Remarks
Lamp with
initials by Spalding
#5052 ft

1 1/2" from anode
No baffle to stop
swirl
10 Amps 1 hr
60 " 1 "

Transfer to

Copper plate Expt #88 run 20

Amps 1/2 hr then run
to 75 Amps for 10 hr
Strip + make 2 up

OK

1130	1230	112	8.5	10
1230	"	115	10.5	60
130	"	120	"	60

#50730 Expt #46

Number 769972 J76719

Out

This would be be
not fast plate
Expt #91 to place
then start a part of
bathe to turn and
then make 2 up

Feb 10, 21

Time	Temp	Volts	Amps	Time	Temp
1230	110	9	10	10	1
"	115	10.5	60	10	1
"	120	"	60	70	2

No good

account of

the shellaced label
from Master,
coming loose

Expt #47

Remarks

Special Master
to be in face then
back with wire
copper

Want to make
a working model
as per drawing from
Mr Pullin to be made

This label stuck
due to it being
cannot run at
90° if label is stuck
on

Feb. 11, 21

Expt # 48

Time of day	Temp	Volts	Amperes	Watts	Remarks
3	125	105	9	10	-
4	"	110	60	10	1
5	"	"	60	70	2

Remarks
Making working
fast plating from
mould # 3383B
Transfer to Rappaport
Expt # 90

OK

Feb. 13, 21

Expt # 49

Time	Temp	Volts	Amperes	Watts	Remarks
1225	110	9	10	-	-
"	115	105	60	10	1
"	120	"	60	70	2

Remarks
Making working
mould from
3431

To be mated in with
3383B when
backed up with
copper.

Transferred to Expt
90 after back

OK

Feb. 15, 21

Expt #50

Time	Sp. Amp	Volt	Amp	Total	hrs
2	125	125	8	10	1
3	"	125	10	60	10
4	"	"	"	60	70

Remarks
To be backed up
with Copper Expt #99

OK plate

Time	Sp. Amp	Volt	Amp	Total	hrs
4	125	125	8	10	1
5	"	125	9.5	60	10
6	"	"	"	60	70

Expt #51
Remarks
To be backed up
with Copper Expt #99

OK plate.

Feb. 17, 21.

Expt #52

Time	Sp. Amp	Volt	Amp	Total	hrs
1	125	125	8	10	1
2	"	125	10	60	10
3	"	"	"	60	70

Remarks
To be backed up
for Copper Expt #99

OK Plate

Time	Sp. Amp	Volt	Amp	Total	hrs
4	125	125	8	10	1
5	"	125	10	60	10
6	"	"	12	60	70

Remarks
To be backed up for
Copper Expt #98
1. Expt #53.

OK plate

Feb. 21, 21.

Expt #54

Time	Sp. In. Temp.	Volt	Amp	Total	Wts	Remarks
1	122.5	120	8	10		To be backed
2	"	125	10	60	10	1 up with Expt #9
3	"	"	"	60	70	2 Lopper, Run Vulcanized Expt #9 Lopper

OK plate

Time	Sp. In. Temp.	Volt	Amp	Total	Wts	Remarks
4	125	120	8	10		
5	"	125	10	60	10	1
6	"	"	"	60	70	2

Feb. 25, 21
Mr Edison memo asking if the
excess of Arctic Acid did away
with the gas holes.
Answer yes

Area fast plate 6.5 to 6 cc Arctic
per for at 120°F.
After 1240-1245 Expt. Run
Cold plate requires
2 cc per liter 250
Archeas
Sels

March 3, 21

Expt #56

Time	Sp. In. Temp.	Volt	Amp	Total	Wts	Remarks
1	123	120	8	10		Working female #5497
2	"	"	"	60	10	1st filled Easter Petition fast plate
3	"	"	"	60	70	2 Cut. to back up with Expt #106 Cu

Expt #57

Time	Sp. In. Temp.	Volt	Amp	Total	Wts	Remarks
1	123	120	8	10		Working female
2	"	"	"	60	70	2 #4336 C1 2 vulcanized Easter Petition to be backed up with Expt #107 Cu

Expt #58

Time	Sp. In. Temp.	Volt	Amp	Total	Wts	Remarks
1	123	120	8	10		Working female
2	"	"	"	60	70	2 #5269 C1 3 vulcanized Easter Petition to be backed up with #108 Expt #9

~~Expt #59~~

[ITEM(S) FOUND IN BOOK]

Mr. Epps Fast Plating
#1 to 58 Experiments

#5

Rotated 30 minutes with 60 C.C.

Rubber Cement from Combination

Rubber Co

on 4:30 P.M. off 5:00 P.M.

Rotating at 26 R.P.M.

Notebook Series -- Notebooks by Edison and Other Experimenters
Disc Plating Experiments
Notebook, N-20-06-08.2

This notebook was used during June-July 1920 and December 1920-March 1921 by Edison, Walter N. Archer, Frank Detlef, Jr., and Howard F. Redford. The entries pertain to the plating processes involved in the manufacture of disc records. The first part of the book contains tabular reports similar to the ones in previous books such as N-20-06-08.1. The reports provide a daily record of molds plated in "Bath 4" using scrapped molds for anodes or cast copper anodes. A few notations by Edison appear on the early entries. The second half of the book contains entries from December 1920-March 1921 for plating experiments, numbered 51-160, that continue the experiments begun in N-20-06-09. The entries focus on improvements in the copper plating process. Among the numerous items inserted into the book are notes and instructions from Edison to Archer, as well as notes from Detlef and Redford to Archer with results noted in the daily record. The front cover is labeled "Baths." The pages are unnumbered. Approximately 180 pages have been used.

man. 15% 21
new bar pump - Rhodes lotter
off old one - lasted 4 months.

New Rhodes on man. 18th

5¹/₄

4 Bath - 1st disc in

June 8th

2.20 P.M. June 8

2.20

2.20

2.20

2.20

2.20

2.20

2.20

2.20

2.20

2.20

2.20

2.20

2.20

2.20

2.20

2.20

2.20

2.20

2.20

2.20

2.20

2.20

2.20

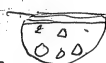
2.20

2.20

2.20

2.20

2.20



NG

S.G. Volts Amp Temp

1173 9 1/2 20 4 84

1175 9 1/2 19 1/2 83

1175 9 1/2 19 1/2 80

1175 9 1/2 19 1/2 82

1175 9 1/2 19 81

1175 9 1/2 19 82

1175 9 1/2 19 82

1180 9 1/2 19 82

1170 9 1/2 19 82

1170 9 1/2 18 1/2 80

1170 9 1/2 18 51

1170 9 1/2 20 83

1170 9 1/2 20 83

1170 9 1/2 20 81

1170 9 1/2 20 81

1170 9 1/2 20 82

1170 9 1/2 20 81

1170 9 1/2 20 88

1170 9 1/2 18 1/2 80

1170 9 1/2 19 80

1175 9 1/2 19 80

1170 9 1/2 19 81

1170 9 1/2 19 81

1170 9 1/2 19 81

1170 9 1/2 19 81

1170 9 1/2 19 81

1170 9 1/2 19 81

1170 9 1/2 19 81

1170 9 1/2 19 81

4 Bath
June 9

	3-6	7-10	11-14	Temp.
1 20	1170	9-5	18	80
2 20	1170	9-5	18	80
3 20	1170	9-5	18 1/2	82
4 20	1170	9-5	18 1/2	83
5 20	1170	9-5	18 1/2	83
6 20	1170	9-5	18 1/2	81
7 20	1170	9-5	18	80
8 20	1170	9-5	18	80
9 20	1170	9-5	18	80
10 20	1170	9-5	18	80
11 20	1170	9-5	18	80
12 20	1170	9-5	19	82
1 20	1170	9-5	19 1/2	82
2 20	1170	9-5	19	80
3 20	1170	9-5	19 1/2	82
4 20	1170	9-5	20	82
5 20	1170	9-5	20	83
6 20	1170	9-5	20	83
7 20	1170	9-5	20	83
8 20	1170	9-5	21	83
9 20	1170	9-5	21	83
10 20	1170	9-5	20	80
11 20	1170	9-5	20	81

June 10 - AM

069-

Collection

Out

4 Bath
2nd Lisc same On edge
June 10th
No Screen on Bath

11 am. Edge at 18 hours started
Crystalline but not enough
to stop it from washing
Clear to Edge
In 360 amp hours 028 thick -

Screen
on Bath L Bath 2nd Lisc same
on Arch

	S. B.	Volts	Amperes	Temp
5 00	1175	9 1/2	18	81
6 00	1175	9 1/2	20	81
7 00	1175	9 1/2	20	80
8 00	1175	9 1/2	20	80
9 00	1175	9 1/2	20	80
10 00	1170	9 1/2	20	80
11 00	1170	9 1/2	19 3/4	80
12 00	1170	9 1/2	20	81
1 00	1170	9 1/2	20	80
2 00	1170	9 1/2	20	81
3 00	1170	9 1/2	20	80
4 00	1170	9 1/2	20	80
5 00	1170	9 1/2	20	80
6 00	1170	9 1/2	20	82
7 00	1170	9 1/2	20	80
8 00	1170	9 1/2	20	80
9 00	1170	9 1/2	20	81
10 00	1170	9 1/2	20	82
11 00	1170	9 1/2	20	82
12 00	1170	9 1/2	20	83
1 00	1170	9 1/2	20	83
2 00	1170	9 1/2	20	82

Worth Absorbed at
June 11

4 Bath 2nd Disc same

17

	8.6	Gold	Comp	Temp
1170	9 1/2	19	83	
1170	9 1/2	19	83	
1170	9 1/2	19	83	
1170	9 1/2	19	82	
1170	9 1/2	20	80 1/2	
1170	9 1/2	19	80	
June 12				
00 AM	1170	9 1/2	19 1/2	80
0	1170	9 1/2	19 1/2	80
00	1170	9 1/2	19 1/2	80
00	1170	9 1/2	20	81
00	1170	9 1/2	20	80
00	1170	9 1/2	19	80
00	1170	9 1/2	19	80
00	1170	9 1/2	19 1/2	81
00	1170	9 1/2	19	83
00	1170	9 1/2	19	83 1/2
00	1170	9 1/2	19	83
00	1170	9 1/2	20	83
00 PM	1170	9 1/2	19	83
00 June 12	1170	9 1/2	19	83

2nd Bath No 4.
Disc prot 2:00 P.M. June 12
start June 10 at 5 P.M.

866 Comp in 45 hours
at 19.6 hours

June 12:

B 4

3 disc. in
same Amels

P.M.	Spec.	Kalts	Ampl.	Temp.	Temp.
3:00	1170	9 1/2	18	83	
4:20	1170	9 1/2	18	82	18.
5:00	1170	9 1/2	17	80	35
6:00	1170	9 1/2	18	82	53
7:00	1170	9 1/2	18 1/2	83	71
8:00	1170	9 1/2	18	83	89
9:00	1170	9 1/2	17	83	106
10:00	1170	9 1/2	17	83	123
11:00	1170	9 1/2	16 1/2	81	140
12:00	1170	9.5	17	85	156
1:00	1170	9.5	17	84	173
2:00	1170	9.5	16	84	189
3:00	1170	9.5	16	82	205
4:00	1170	9.5	16	82	221
5:00	1170	9.5	16	82	231
6:00	1170	9.5	16	82	253
7:00	1170	9.5	16	81	269
8:00	1170	9.5	16	84	285
9:00	1170	9.5	15 1/2	82	300
10:00	1171	9.5	15 1/2	82	316
11:00	1170	9.5	15	82	331
12:00	1175	9.5	15	81	346
1:00	1175	9.5	15	81	361
2:00	1175	9.5	15	81	376
3:00	1175	9.5	15	82	391
4:00	1175	9.5	15	83	406

Bath No. 4. June 13 P.M.
 3 red disc plating in this Bath dropped
 from 14 ampere to 8 ampere at 10:00 AM
 looked at anode and found worn
 over. Spopped Plating at 10:00 o'clock

13

B4

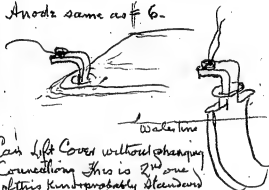
3 disc in same anode

Am. Sec.	Volts	amp.	Temp.	Sample
9:00	1175	9-5	15	83 421
9:30	1175	9-5	15	83 436
10:00	1175	9-5	15	83 451
10:30	1175	9-5	15	83 466
11:00	1175	9-5	15	83 482
10:45	1175	9-5	14	80

taken out

N^o 4 Both 1st Disc in

Anode same as # 6.



Cash Left Cover without changing
Connections This is 2nd one
of this kind probably Standard

June 15- 9. PM Feed Anode

Time	S.B.	Both	Comp	Temp	Total Comp
9:00	1170	9 1/2	20	83	
10:00	1170	9 1/2	22	83	22
11:00	1170	9-5	23	83	45 -
12:00 PM	1170	9-5	23	80	68
June 16					
1:00 PM	1170	9.5	23	82	91
2:00	1170	9.5	23	80	114
3:00	1170	9.5	23	80	137
4:00	1170	9.5	23 1/2	80	160
5:00	1170	9.5	23 1/2	80	184
6:00	1170	9.5	23 1/2	80	207
7:00	1170	9.5	23 1/2	80	231
8:00	1170	9.5	23	80	254
9:00	1170	8.5	23 1/2	83	277
10:00	1170	8.5	23	83	300

W 4 Bath

1st Linc
Out

Time	Lat	Long	Comp	Temp	Total
11:00	1170	9 1/2	22 1/2	80	323
11:00	1170	9 1/2	22 1/2	80	345
11:00	1170	9 1/2	22 1/2	82	368
11:00	1170	9 1/2	23	82	390
11:00	1170	9 1/2	23 1/2	82	413
11:00	1170	9 1/2	23 1/2	82	447
11:00	1170	9-5	23 1/2	82	469
11:00	1170	9-5	23 1/2	82	492
11:00	1170	9-5	22	82	514
11:00	1170	9-5	22	82	536
11:00	1170	9-5	22	83	558
11:00	1170	9-5	22	83	580
11:00	1170	9-5	22	80	602
11:00	1170	9-5	22	81	624
June 17					
11:00	1170	9-5	22	80	646
11:00	1170	9-5	22	80	668
11:00	1170	9-5	22	80	690
11:00	1170	9-5	23	80	713
11:00	1170	9-5	22	82	735
11:00	1170	9-5	22	82	757
11:00	1170	9-5	23	81	780
11:00	1170	9-5	22	80	802
11:00	1170	9-5	22 1/2	83	824
11:00	1175	9-5	22	83	846
11:00	1175	9-5	21 1/2	83	868

In June 15 - 200 P.M.

868 Comp ins 38 hours

about 23 Per hour

Out June 17 - 11:00 A.M.

Out

Batch No 4

2 obs in Batch

Time	Spec.	Volts	amps	Temp	
1:30	1175	9-5	20	81	
2:00	1175	9-5	21	82	21
3:30	1175	9-5	21	82	42
4:00	1175	9-5	21	82	63
5:00	1175	9-5	21	82	84
6:30	1175	9-5	21	82	105
7:30	1175	9-5	20 1/2	82	125
8:30	1175	9-5	21	82	146
9:30	1175	9-5	21	82	167
10:30	1175	9-5	20 1/2	82	188
11:30	1175	9-5	20 1/2	82	208
12:30	1175	9-5	20 1/2	80	229
Done 18					
1:30	1175	9-5	20	80	249
2:30	1175	9-5	20	80	269
3:30	1175	9-5	20	82	289
4:30	1175	9-5	21	80	310
5:30	1175	9-5	21	80	331
6:30	1175	9-5	20	80	351
7:30	1175	9-5	21	82	372
8:30	1175	9-5	21	83	393
9:30	1175	9-5	21	83	414
10:30	1175	9-5	21	83	435
11:30	1175	9-5	20 1/2	83	455
12:30	1175	9-5	21	83	476
1:30	1175	9-5	21	83	497

Bath 714 4 2 Line

Time	Sch	Vlt	Cmp	Cmp	Hotel
1:30	1175	9-5	21	83	618
1:30	1175	9-5	21	84	639
1:30	1175	9-5	21	84	660
1:30	1175	9-5	20	83	680
1:30	1175	9-5	20	83	700
1:30	1175	9-5	20	83	720
1:30	1175	9-5	20	83	740
1:30	1175	9-5	20	83	760
0:30	1175	9-5	20	83	780
1:30	1175	9-5	20	80	800
2:30	1175	9-5	20	80	820
2:30	1175	9-5	20	80	840
1:30	1175	9-5	20	80	860 Out
1:30	1175	9-5			37 hours
1:30	1175	9-5			

714 Bath 2nd Line Out Jan 19

860 Amp in 37 hours

23.9 Amp Per hour

Jan 17 - 1:30 P.M.

June 19. 1914

No 4 Bath after second mould
taken out filled chamber with
Copper pieces

June 19 No 4 Bath & the size in
gains and

PM	Bar	Wells	Comp	Temp	Total
30	1175	9 1/2	19	83	
1:30	1175	9 1/2	21	83	21
2:30	1175	9 1/2	21	83	42
3:30	1175	9 1/2	21 1/2	83	63
4:30	1175	9 1/2	20 1/2	83	84
5:30	1175	9 1/2	20 1/2	83	104
6:30	1175	9 1/2	21	83	125
7:30	1175	9 1/2	21 1/2	83	146
8:30	1175	9 1/2	22	83	168
AM					
9:30	1175	9 1/2	22	83	190
10:30	1175	9 1/2	22	80	210
11:30	1175	9 1/2	21	80	233
12:30	1175	9 1/2	21	80	254
1:30	1175	9 1/2	21	80	275
2:30	1175	9 1/2	21	81	296
3:30	1175	9 1/2	21	82	317
4:30	1175	9 1/2	21	82	338
5:30	1175	9 1/2	21 1/2	82	359
6:30	1175	9 1/2	21 1/2	83	381
7:30	1175	9 1/2	22	83	403
8:30	1175	9 1/2	22	83	425
PM					
9:30	1175	9 1/2	22	83	447
10:30	1175	9 1/2	22	83	469

466

over
22 (all)

No 4 Bath 3rd Dec 17

Time	Len.	Width	Comp	Temp	Total
1:30	1175	9 1/2	22 1/2	83	491
2:30	1175	9-5	22-	83	513
3:30	1175	9-5	21 1/2	83	534
4:30	1175	9-5	21 1/2	83	556
5:30	1175	9-5	21	83	577
6:30	1175	9-5	21	83	598
7:30	1175	9-5	21	82	619
8:30	1175	9-5	21	82	630
9:30	1175	9-5	21	82	651
10:30	1175	9-5	21	82	672
11:30	1175	9-5	21	82	693
12:30	1175	9-5	21	82	714
1:30	1180	9-5	21	83	735
2:30	1180	9 1/2	21	84	756

Temp

36 hours

No 4 Bath
 should taken out
 total Compers figured up
 night man mistake

Power off at 5 o'clock started
again at 5:15 P.M.

No 4 Bath 4th Sec
same Anal

TIME	Shv	Volts	Amp	Temp	Total
6:30	1175	9 1/2	19	83	
6:30	1175	9 1/2	21	83	21
7:30	1175	9 1/2	21	83	42
8:30	1175	9 1/2	21	83	63
9:30	1175	9 1/2	21	83	84
10:30	1175	9 1/2	21	83	105
11:30	1175	9 1/2	20 1/2	83	125 1/2
12:30	1175	9 1/2	21	83	146
1:30	1175	9 1/2	21	83	167
2:30	1175	9 1/2	21	83	188
3:30	1175	9 1/2	21	83	209
4:30	1175	9 1/2	21	83	230
5:30	1175	9 1/2	21 1/2	83	251
6:30	1175	9 1/2	21 1/2	84	272
7:30	1175	9 1/2	20	82	293
8:30	1175	9 1/2	20 1/2	83	313 1/2
9:30	1175	9 1/2	21	83	334
10:30	1175	9 1/2	21	83	355
11:30	1175	9 1/2	21	83	376
12:30	1175	9.5	21	83	397
1:30	1175	9.5	21	83	418
2:30	1175	9.5	21	83	439
3:30	1175	9.5	21 1/2	83	460
4:30	1175	9.5	2 1/2	83	482
5:30	1175	9.5	21	83	503

974 Bath 4 Disc in
James Amick

JUNE	lbr	Both	Comp	Imp	Total
22					
23					
6:30	1175	9 1/2	21	83	524
7:30	1175	9 1/2	21	83	525
8:30	1175	9 1/2	21	83	566
9:30	1175	9 1/2	21	83	584
10:30	1175	9 1/2	21	83	608
11:30	1175	9 1/2	21	83	629
12:30	1175	9 1/2	21	83	650
9:00	23				
7:30	1175	9 1/2	21	80	671
2:30	1175	9 1/2	21	80	692
3:30	1175	9 1/2	21	80	713
4:30	1175	9 1/2	21	80	734
5:30	1175	9 1/2	21	80	755
6:30	1175	9 1/2	21	81	776
7:30	1175	9 1/2	21	81	797
8:30	1175	9 1/2	21	83	818
9:30	1175	9 1/2	21	83	839
10:30	1175	9 1/2	21	83	860

Out

41 hours

21 Comp Per hour

June 23 7-30 P.M.

Probe Chamber filled up with
Copper pins

W4 Bath 5th Size in
same mode

Time	Sh.	Volts	Comp	Temp	Atel
8:00	1175	9 1/2	19	83	
9:00	1170	9 1/2	19	83	19
10:00	1176	9 1/2	19 1/2	84	38
11:00	1176	9 1/2	19	84	57
12:00	1170	9 1/2	19	84	76
June 24					
1:00	1170	9 1/2	19	84	95
2:00	1170	9 1/2	19	80	114
3:00	1170	9 1/2	20	80	134
4:00	1170	9 1/2	21	80	155
5:00	1170	9 1/2	21	80	176
6:00	1170	9 1/2	21 1/2	80	197
7:00	1170	9 1/2	22	80	219
8:00	1170	9 1/2	22	82	241
9:00	1170	9 1/2	21 1/2	83	263
10:00	1170	9 1/2	21 1/2	83	284
11:00	1170	9-5	20 1/2	83	305
12:00	1170	9-5	20 1/2	83	325
1:00	1170	9-5	20 1/2	83	346
2:00	1170	9-5	20 1/2	83	368
3:00	1170	9-5	20	83	388
4:00	1170	9-5	19 1/2	83	408
5:00	1170	9-5	19	83	427
6:00	1170	9-5	18 1/2	80	446
7:00	1170	9-5	18 1/2	80	466

Mc 4 Beth 5th Line

June

Time	Lat	Long	Alt	Temp	Wind
8:00	1170	9 1/2	26	83	486
9:00	1170	9 1/2	20	83	506
10:00	1170	9 1/2	20	83	526
11:00	1170	9 1/2	20	83	546
12:00	1170	9 1/2	20	83	566
June 26					
1:00	1170	9 1/2	26	83	586
2:00	1170	9 1/2	20	81	606
3:00	1170	9 1/2	19	82	625
4:00	1170	9 1/2	19 1/2	82	644
5:00	1170	9 1/2	20	82	664
6:00	1170	9 1/2	19	82	683
7:00	1170	9 1/2	20	82	703
8:00	1175	9 1/2	19	82	722
9:00	1175	9 1/2	19	82	741
10:00	1175	9-5	20	82	761
11:00	1175	9-5	19	82	780
12:00	1170	9-5	20	80	800
1:00	1170	9-5	20	80	820
2:00	1170	9-5	19	80	839
3:00	1170	9-5	19	80	858 out
June 25					
3:00 PM				858	413 ft
					19 Amps

No 4 Beth 6th Lisc in
same time

JUNE

25

PM

Time	Sp	Dist	Imp	Temp	Wind
7:00	1170	9 1/2	18	80	
8:00	1170	9 1/2	18	80	18
9:00	1170	9 1/2	19	80	37
10:00	1170	9 1/2	19	82	66
11:00	1170	9 1/2	19	82	75
12:00	1170	9 1/2	20	80	95
1:00	26				
2:00	1170	9 1/2	18	82	113
3:00	1170	9 1/2	18	83	131
4:00	1170	9 1/2	19	83	150
5:00	1170	9 1/2	19	83	169
6:00	1170	9 1/2	19	81	188
7:00	1170	9 1/2	19	81	207
8:00	1170	9 1/2	18 1/2	83	225
9:00	1170	9 1/2	19	83	244
10:00	1170	9 1/2	19	83	263
11:00	1170	9 1/2	19	83	282
12:00	1170	9 1/2	19	83	301
1:00	1170	9 1/2	19	83	320
2:00	1170	9-5	18	80	338
3:00	1170	9-5	18	80	356
4:00	1170	9-5	18	83	374
5:00	1170	9-5	18	83	392
6:00	1170	9-5	18	80	401

204 Bath 6th Disc in

JUNE 26	Rel	Bath	Comp	Temp	Total
6:00	1170	9-5	18	80	428
7:00	1170	9-5	18	83	446
8:00	1170	9-5	17 1/2	83	463
9:00	1170	9-5	17 1/2	83	481
10:00	1170	9-5	17 1/2	83	498
11:00	1170	9-5	17 1/2	83	516
12:00	1170	9-5	17 1/2	81	533
1:00	1170	9-5	17 1/2	81	551
2:00	1170	9-5	17	80	568
3:00	1170	9-5	17	81	585
4:00	1170	9-5	17	81	602
5:00	1170	9-5	18	81	620
6:00	1170	9-5	18	81	638
7:00	1170	9-5	18	81	656
8:00	1170	9-5	18	81	674
9:00	1170	9-5	18 1/2	83	692
10:00	1170	9-5	18 1/2	83	711
11:00	1170	9-5	18 1/2	83	729
12:00	1170	9-5	18	83	747
1:00	1170	9-5	18	83	765
2:00	1170	9-5	18	83	783
3:00	1170	9-5	18	83	801
4:00	1170	9-5	18	83	819
5:00	1170	9-5	17	83	836
6:00	1170	9-5	17	83	853

204 Bath 6th Disc Out

June 27-700 PM
870 Comp. in 48 hours
about 18 Comp. in 48 hours

in June 26-700 P.M.

JUNE 27	Rel	Bath	Comp	Temp	Total
7:00	1170	9-5	17	83	870

Out

Nov 28, 20. No 4 Bath 7th Disc in
same line

	Lb	Wt	Comp	Temp	Notes
12:00 AM	1170	9-5	14	86	
1:00	1170	9-5	16	86	16
2:00	1170	9-5	16 1/2	80	32
3:00	1170	9-5	16 1/2	84	49
4:00	1170	9-5	16 1/2	81	65
5:00	1170	9-5	16 1/2	81	82
6:00	1170	9-5	16 1/2	81	98
7:00	1170	9-5	16 1/2	82	115
8:00	1170	9-5	15 1/2	82	130
9:00	1170	9-5	18 1/2	81	148
10:00	1170	9-5	18 1/2	81	166
11:00	1170	9-5	18	83	184
12:00 PM	1170	9-5	18	83	202
1 PM	1175	9-5	19	80	221
2 "	1175	9-5	18	83	239
3 "	1175	9-5	17	81	256
4 "	1150	9-5	17 1/2	82	273
5 "	1165	9-5	18	78	291
6 "	1165	9-5	18	80	309
7 "	1165	9-5	18 1/2	80	327
8 "	1165	9-5	18 1/2	80	345
9 "	1165	9-5	18	80	363
10 "	1165	9-5	18	80	381
11 "	1165	9-5	16	86	397
12 "	1165	9-5	17	80	414

$$\begin{array}{r}
 245 \overline{) 585} \quad (16.9 \\
 \underline{240} \\
 2070 \\
 \underline{3300} \\
 3100
 \end{array}$$

Start Wk. 2 f 20. 12 PM.
 Finish " 29, 20 10.31 AM
 Total Amps 585
 " hours 34½
 Average Amps = 16.9

4 Bath

#7 disc
 Less scrap anode

No 4 Bath 7th Disc in
same anode

June 29	Volts	Amps	Temp.	Time	
1.00	8.9	16 1/2	81	430	
2.00	1165	9-5	16 1/2	81	444
3.00	1165	9-5	16 1/2	81	463
4.00	1165	9-5	16 1/2	82	480
5.00	1165	9-5	16 1/2	81	496
6.00	1165	9-5	16 1/2	81	513
7.00	1165	9-5	16	82	527
8.00	1165	9-5	16	82	545
9	1165	9-5	16	87	563
10	1165	9-5	16.5	86	579
10:30	"	"	16	86	585

Revised 10:55 AM
SOS aut

Out out to make
 space for next up, and
 cleaned up crystals in
 anode chamber

June #4 Both

Cast Canada
Person None

No 4 Bath bet Line in
Cast Anoid

July 9	Line	Depth	Temp	Water
11:00 AM	1165	9-5	15	
12:00 PM	1165	9-5	15	80
1:00 PM	1165	9-5	15	80
2:00 PM	1165	9-5	15	80
3:00 PM	1165	9-5	14	83
4:00 PM	1165	9-5	14	83
5:00 PM	1165	9-5	14	83
6:00 PM	1165	9-5	14	83
7:00 PM	1165	9-5	14	83
8:00 PM	1165	9-5	14	84
9:00 PM	1165	9-5	14	84
10:00 PM	1165	9-5	14	82
11:00 PM	1165	9-5	14	82
12:00 AM	1165	9-5	14	82
1:00 AM	1165	9-5	14	82
2:00 AM	1165	9-5	14	84
3:00 AM	1165	9-5	14	83
4:00 AM	1165	9-5	14	83
5:00 AM	1165	9-5	13-5	83
6:00 AM	1165	9-5	13	82
7:00 AM	1165	9-5	13	82
8:00 AM	1165	9-5	13	81
9:00 AM	1165	9-5	13	81
10:00 AM	1165	9-5	14	81

Notation

No 4 Bath to Linc
Cast Creek

July 4th P.M.	Lm	Delta	Comp	Comp	Total	
11.00	1165	9-5	13-5	81	334	not a net on
12.00	1165	9-5	13-5	81	348	
A.M. July 5						
1.00	1165	9-5	13-5	81	361	
2.00	1165	9-5	13-5	81	375	
3.00	1165	9-5	13-5	81	388	
4.00	1165	9-5	13-5	81	402	
5.00	1165	9-5	14	81	416	
6.00	1165	9-5	13-5	81	429	
7.00	1165	9-5	13-5	81	443	
8.00	1165	9-5	13-5	81	456	
9.00	1165	9-5	13-5	81	470	not a net on
10.00	1165	9-5	14	81	484	
11.00	1165	9-5	14	81	498	
12.00	1165	9-5	14	81	512	
1.00	1165	9-5	14	81	526	
2.00	1165	9-5	14	81	540	
3.00	1165	9-5	14	81	554	
4.00	1165	9-5	14	81	568	
5.00	1165	9-5	14	81	582	
6.00	1165	9-5	14	81	596	
7.00	1165	9-5	14	81	610	not a net on
8.00	1165	9-5	14	81	624	
9.00	1165	9-5	14	81	638	
10.00	1165	9-5	14	81	652	

Cleaned up .032

Outside Re-lap = .053

Inside " = .061

54) 748 (13.7
 54 0
 22
 380
 378

#4 Bath #1 dir.

After cleaning tank free from grease & oil

Run total to 750 amper.

Start July 3, 21, 11 P.M.

Finish " 6, 21, 5 P.M.

Total Amps 748

" 54

Average Amps 13.7

No 4 Bath 1st Dir
 Castaneda

July 6

P.M.

11.00

12.00

A.M.

11.00

2.00

3.00

4.00

5.00

Volts	Amps	Temp	Total
1165	9-5	14 81	666
1165	9-5	13 81	679
1165	9-5	13 81	693
1165	9-5	13 81	706
1165	9-5	13 81	720
1165	9-5	14 81	734
1165	9-5	14 81	748

54 hrs. Out

Min. in Bath slope was
rounded off

Visa. Park. 1/2 P.M.
Stimmer's lab on oct

July 1, 9:00 AM

Added 5.00 general bath slope
to plating solution 11:30 AM July 1

July 6 Bath No 4 2nd due in
last anodes

PM	Spec	Volts	amp.	Temp	Total
2-30	1165	9-5	14	76	
3-30	1165	9-5	14	80	14
4-30	1165	9-5	18	83	29
5-30	1165	9-5	14-5	83	43
6-30	1165	9-5	14	83	57
7-30	1165	9-5	14	84	71
8-30	1165	9-5	14	84	85
9-30	1165	9-5	13-5	84	98
10-00	1165	9-5	13-5	84	112
11-30	1165	9-5	13-5	84	126
12-30	1165	9-5	15	84	141
A.M. July 7					
1-30	1165	9-5	15	84	156
2-30	1165	9-5	14	84	170
3-30	1165	9-5	13-5	84	183
4-30	1165	9-5	13-5	84	197
5-30	1165	9-5	13-5	84	210
6-30	1165	9-5	13-5	84	224
7-30	1165	9-5	13-5	84	237
8-30	1165	9-5	13	85	250
9-30	1165	9-5	14	85	264
10-30	1165	9-5	13	85	277
11-30	1165	9-5	13	83	290
12-30	1165	9-5	13	82	303
1-30	1165	9-5	13-5	83	316

$$\begin{array}{r}
 114 \overline{) 593} \quad 13.4 \\
 \underline{158} \\
 132 \\
 \underline{216} \\
 176
 \end{array}$$

#4 Bath

2nd price in
East mode.

Time	Sp. An	Vlt	Ampl.	Imp.	Total
2:30	1165	9.5	13.5	83	329
3:30	1165	9.5	13.5	84	343
4:30	1165	9.5	13.5	85	356
5:30	1165	9.5	13.5	85	370
6:30	1165	9.5	13.5	85	383
7:30	1165	9.5	13.5	84	397
8:30	1165	9.5	13.5	83	410
9:30	1165	9.5	13	83	423
10:30	1165	9.5	13	82	436
11:30	1165	9.5	13	82	449
12:30	1165	9.5	13	82	462
1:30	1165	9.5	13	82	475
2:30	1165	9.5	13.5	82	489
3:30	1165	9.5	13.5	82	502
4:30	1165	9.5	13	82	515
5:30	1165	9.5	13	82	528
6:30	1165	9.5	13	82	541
7:30	1165	9.5	13	82	554
8:30	1165	9.5	13	82	567
9:30	1165	9.5	13	80	580
10:30	1165	9.5	13	80	593

Clst

#2 hi plated disc, from #1 hi bath.

Wash, wash, then rinsed with city water, then distilled water and put in wash drier. Washed dist #20. 2 min. bath. Copper bath was brought them to 600 Am/ps.

For 2 summer in bath. Disc was left stand in Copper bath current off. 2 hours, showed oxidation on part exposed to air. Rinsed in city water. $\frac{47}{643} \left(\frac{123}{329} \right) 13.7$

Start July 8, 20 - 10 AM.
Finish July 11, 20 - 9 AM.
Initial time 643
Overex Amp. 137

#4 Bath

Started July 8, 20.

Wt. Sp. Wt.	Volt	Amp	Temp.	Total
10 AM 1165	9.5	14.5	80	
11 - 1165	9.5	13	80	13
12 - 1165	9.5	13.5	82	27
1 PM 1165	9.5	13	80	40
2 PM 1165	9.5	13	86	53
3 - 1165	9.5	13	88	66
4 - 1165	9.5	13	88	79
5 - 1165	9.5	14	80	93
6 - 1165	9.5	14	80	107
7 - 1165	9.5	13.5	80	120
8 - 1165	9.5	13.5	80	134
9 - 1165	9.5	13.5	80	147
10 - 1165	9.5	13	80	160
11 - 1165	9.5	13	90	173
12 - 1165	9.5	13	80	186
July 9, 20				
1 AM 1165	9.5	13	80	
2 - 1165	9.5	13	80	
3 - 1165	9.5	13	80	
4 - 1165	9.5	13	80	
5 - 1165	9.5	13	80	
6 - 1165	9.5	13	80	
7 - 1165	9.5	13	80	
8 - 1165	9.5	12	80	284
9 - 1165	9.5	13.5	78	303

2nd disc
last one
#2 hi plated disc
from #1 hi bath

Grade change M.
Lug, then etc.

Added 10 cc gun bath dope to
top per plate bot. at 11 AM July 9.

643 (

#4 Bath

July 9, 21.

Boat	Sp	20	Volts	Amp	Temp	Stal
10 AM	1165	9.5	14	79	317	
11-	1170	9.5	14	80	331	
12-	1165	9.5	15	80	346	
1 PM	1165	9.5	15	82	361	
2-	1165	9.5	15	81	376	
3-	1165	9.5	15	81	391	
4-	1165	9.5	14	80	405	
5-	1165	9.5	14	80	419	
6-	1165	9.5	14	80	433	
7	1165	9.5	14	80	447	
8	1165	9.5	14	80	461	
9	1165	9.5	14	80	475	
10	1165	9.5	14	80	489	
11	1165	9.5	14	80	503	
12	1165	9.5	14	80	517	

July 10, 20

1165	9.5	14	80	531
1165	9.5	14	80	545
1165	9.5	14	80	559
1165	9.5	14	80	573
1165	9.5	14	80	587
1165	9.5	14	80	601
1165	9.5	14	80	615
1165	9.5	14	80	629
1165	9.5	14	80	643

2nd die.
#2 in selected

from 1000 to 10000

Out

July 10 1972
 ME1. mixed for 1st. washed
 well and then with distilled
 water put in 1st
 put in 704 Copper. left for
 2 minutes with lamp off
 start off for 2nd lamp

2nd lamp on. 1st screw
 loosened.

704 Bath

July 10 PM	Sh	Volts	Amf	Amf	Rate
8-30	1165	9-5	14	80	
9-30	1165	9-5	13-5	80	13
10-30	1165	9-5	13	80	20
11-30	1165	9-5	12	80	
12-30	1165	9-5	12	80	
1-30	1165	9-5	12	80	
2-30	1165	9-5	12	80	
3-30	1165	9-5	12	80	
4-30	1165	9-5	12	80	
5-30	1165	9-5	12	80	
6-30	1165	9-5	12	80	
7-30	1165	9-5	12	80	
8-30	1165	9-5	12	80	
9-30	1165	9-5	12-5	80	1-78
10-30	1165	9-5	12	80	170
11-30	1165	9-5	11	80	181
12-30	1165	9-5	11	80	192
1-30	1165	9-5	11	80	203
2-30	1165	9-5	11	80	214
3-30	1165	9-5	11	80	225
4-30	1165	9-5	11	80	236
5-30	1165	9-5	11	80	247
6-30	1165	9-5	11	80	258
7-30	1165	9-5	11	80	269

$$\begin{array}{r} 43 \overline{) 618} \quad 14.3 \\ \underline{43} \\ 188 \\ \underline{172} \\ 160 \\ \underline{129} \\ 31 \end{array}$$

Put new resistor across in
 box 3 min dry then current 27 Amps high
 put in dry Copper bath
 One minute at 27.3 Amps 6th test
 then full current on.

4 Bath

Start	Time	Volts	Amps	Temp	Fall
July 12, 20.	6:30	116.5	9.5	13	80
	7:20	116.5	9.5	13	80
	8:20	116.5	9.5	13	80
	9:30	116.5	9.5	13.5	81
	10:30	116.5	9.5	13	83
	11:30	116.5	9.5	13	83
	12:30	116.5	9.5	13	83
July 13, 20.	1:30	116.5	9.5	12.5	81
	2:30	116.5	9.5	12.5	81
	3:30	116.5	9.5	12.5	81
	4:30	116.5	9.5	12.5	81
	5:30	116.5	9.5	12.5	81
	6:30	116.5	9.5	12.5	81
	7:30	116.5	9.5	12.5	81
	8:30	116.5	9.5	12	82
	9:30	116.5	9.5	12	82
	10:30	116.5	9.5	12	82
	11:30	116.5	9.5	12.5	83
	12:30	116.5	9.5	12	83
Aug 1	1:30	116.5	9.5	12.5	83
	2:30	116.5	9.5	12.5	85
	3:30	116.5	9.5	12.5	85
	4:30	116.5	9.5	12	85
	5:30	116.5	9.5	12.5	85

$$\begin{array}{r}
 47 \overline{) 594} \quad | \quad 12.6 \\
 \underline{94} \\
 124 \\
 \underline{90} \\
 380 \\
 \underline{282}
 \end{array}$$

Total Amps 594
 1 hour 47
 Average Amps 12.6

#4 Bath

Time	Temp	Volts	Amps	Time	Total
6	116.5	9.5	13	80	304
7	116.5	9.5	13	80	317
8	116.5	9.5	13	80	330
9	116.5	9.5	13	85	343
10	116.5	9.5	12	84	355
11	116.5	9.5	12	83	367
12	116.5	9.5	12		
1 PM	116.5	9.5	12	85	380
2	116.5	9.5	12		
3	116.5	9.5	12		
4	116.5	9.5	12		
5	116.5	9.5	12		
6	116.5	9.5	12		
7	116.5	9.5	12		
8	116.5	9.5	12		
9	117.5	9.5	11.5	80	486
10	116.5	9.5	12	80	498
11	116.5	9.5	12.5	80	511
12	116.5	9.5	12.5	80	523
1 PM	116.5	9.5	14	80	537
2 PM	116.5	9.5	14	80	551
3	116.5	9.5	13.5	87	564
4	116.5	8.5	14	85	578
5	116.5	9.5	15.5	85	594

out
 closed
 11/11/1918

Ni face disc.
 20 sec. Electric Cleaner, wash
 in natural common water,
 then rinse with distilled
 20 sec. in 8-4, then wash in
 water, and rinse in
 distilled water, and dry in
 air.

Put in Ni bath dry, reverse
 2 minutes, then full current
 on. Total Amps 40 in plated
 Part in Copper dry, full
 current on.

#4 Bath at 5:30 PM.

Time	Sp. No.	Volts	Amps	Temp	Total
July 4, 20					
5:30	1165	9.5	17	85	
6:30	1165	9.5	17	85	17
7:30	1165	9.5	14.5	85	31
8:30	1165	9.5	14.5	85	46
9:30	1165	9.5	14.5	85	70
10:30	1165	9.5	14.5	85	85
11:30	1165	9.5	14.5	83	99
12:30	1165	7.5			
1:30	1165	7.5			
2:30	1165	7.5			
3:30	1165	7.5			
4:30	1165	7.5			
5:30	1165	9.5	16	81	
6:30	1175	9.5	16		
7:30	1165	9.5	15.5	81	262
8:30	1165	9.5	15.5	80	278
9:30	1165	9.5	15.5	80	293
10:30	1165	9.5	15.5	80	309
11:30	1165	9.5	16	80	325
12:30	1165	9.5	15.5	80	340
1:30	1165	9.5	16	80	356

Transfer from
 #1 Ni bath

198

$$45 \overline{) 728} \begin{array}{r} 16.1 \\ 45 \times 16 = 720 \\ \hline 8 \end{array}$$

To-leaf Air. h. 728
 " Home 45
 Average Air. h. 16.1

#4 Bath

Time	Sp. P.	V. P.	Ampl	Temp.	Settle
5:30	116.5	9.5	16	80	372
6:30	116.5	9.5	16.5	83	389
7:30	116.5	9.5	16.5	92	405
8:30	116.5	9.5	17	92	422
9:30	116.5	9.5	17	92	434
10:30	116.5	9.5	17	92	456
11:30	116.5	9.5	17	92	473
12:30	116.5	9.5	17	92	473
1:30	116.5	9.5	17	92	473
2:30	116.5	9.5	17	92	473
3:30	116.5	9.5	17	92	473
4:30	116.5	9.5	17	92	473
5:30	116.5	9.5	17	92	473
6:30	116.5	9.5	17	92	473
7:30	116.5	9.5	17	92	473
8:30	116.5	9.5	17	92	473
9:30	116.5	9.5	17	92	473
10:30	116.5	9.5	17	92	473
11:30	116.5	9.5	17	92	473
12:30	116.5	9.5	17	92	473
1:30	116.5	9.5	17	92	473
2:30	116.5	9.5	17	92	473
3:30	116.5	9.5	17	92	473

Out

Put in Copper bath any
full cement on.

One tree extended
3/4" out from disc.

#4 Bath

Started July 17 29 @ 11:30 AM

Time	Day	10th	11th	12th	13th	14th
11:30 AM	1165	9.5	16.5	93		
12:30	1165	9.5	16.5	90	16	
1:30	1165	9.5	17.5	90	31	
2:30	1165	9.5	16	85	47	
3:30	1165	9.5	16	85	69	
4:30	1170	9.5	16.5	95	71	
5:30	1170	9.5	17	93	76	
6:30	1170	9.5	17	90	100	
7:30	1170	9.5	17	90	105	
8:30	1170	9.5	16.5	90	147	
9:30	1170	9.5	17	90	164	
10:30	1170	9.5	17	89	181	
11:30	1170	9.5	17	92	198	
12:30	1170	9.5	17	92	215	
AM	July 18					
1:30	1170	9.5	17	92	232	
2:30	1170	9.5	17	92	249	
3:30	1170	9.5	17	92	266	
4:30	1170	9.5	16	92	282	
5:30	1170	9.5	16	92	298	
6:30	1170	9.5	16	90	314	
7:30	1170	9.5	16	90	330	
8:30	1170	9.5	16	90	346	
9:30	1170	9.5	16	90	362	
10:30	1170	9.5	16	90	378	

Transfer from
#1 to bath
July 17, 29
105 am
in Photo

46 / 753 / 16.3

Total Amps 753
 " hours 46
 Average Amps 16.3

4 Bath

July 19-26

AM	Volts	Amps	Watts
11	1170	9.5	16
12	1170	9.5	16
100	1170	9.5	16.5
2	1170	9.5	16.5
3	1170	9.5	16.5
4	1170	9.5	16.5
5	1170	9.5	16.5
6	1170	9.5	17
7	1170	9.5	17
8	1170	9.5	17
9	1170	9.5	18
10	1170	9.5	18
11	1170	9.5	17
12	1170	9.5	17
101	1170	9.5	17
201	1170	9.5	15
301	1170	9.5	15
401	1170	9.5	15
501	1170	9.5	15
601	1170	9.5	15
701	1170	9.5	15
801	1170	9.5	15
901	1170	9.5	15
1001	1170	9.5	15

1001

✓

23

23

Sharp Edge choa
 Put in 1st day
 Rave live 3 minutes, then full
 current full on.

Put in 2nd day full current on
 Trees firmed after 5th day in C. Bath

Trees was taken off after
 30 hours with phabs

Add 500 cc H₂SO₄ at 66°
 Same at 6 PM July 20, 20.

#4 Bath

Started July 19, 20 @ 10 AM

Time	Sp. pr.	V. H. pr.	Temp.	Ampl.	Notes
10 AM	1165	9.5	16	90	
11	1165	9.5	16	90	16
12	1165	9.5	16	94	32
1	1165	9.5	17	94	49
2	1165	9.5	17	92	66
3	1165	9.5	17	90	83
4	1165	9.5	17	88	100
5	1165	9.5	17	85	117
6	1165	9.5	17	85	134
7	1165	9.5	17	85	151
8	1165	9.5	14.5	85	165
9	1165	9.5	14.5	85	180
10	1165	9.5	14.5	90	194
11	1165	9.5	14.5	92	209
12	1165	9.5	14.5	92	225
July 20, 20.					
1 AM	1165	9.5	15	71	238
2	1165	9.5	15	71	253
3	1165	9.5	15	70	268
4	1165	9.5	15	70	283
5	1165	9.5	15	70	298
6	1165	9.5	15	70	313
7	1165	9.5	15	70	328
8	1165	9.5	15	70	343
9	1170	9.5	15.5	90	358

Summed up
 Bath #2 in
 Bath
 July 19, 20
 102 amp. h.

38/597/157
 38
 730
 226

1000 Amps 597
 " hours 38
 Average Amp 157

4 Bath

Time	Volts	Amps	Temp	Volts	375
10:00	116.5	9.5	15.5	90	373
11-	116.5	9.5	15.5	90	389
12-	116.5	9.5	16.5	95	405
1:00	116.5	9.5	16.	93	421
2-	116.5	9.5	16	89	437
3-	114.5	9.5	16	89	453
4-	116.5	9.5	16	88	469
5-	116.5	9.5	16.5	88	485
6-	118.0	9.5	16.	88	502
7-	117.5	9.5	15.5	85	518
8-	117.5	9.5	15.5	80	533
9-	117.5	9.5	15.5	80	549
10-	117.5	9.5	15.5	80	564
11-	117.0	9.5	17.0	80	581
12	117.0	9.5	19.	80	597

Added 800 cc
 H₂O at 6:00
 To other bath
 at 6:00 gages

Cont



Exp # 51 Copper bath. R.P.M. 57

Vol 27, 20.

Time	Sp. Gr.	Temp	V. Sol.	Vol.	Vol.	Time
12:05	95	10.5	100			
12:10	111	10	100	100	1	
"	104	10	100	200	2	
"	12:10	108	10	100	300	3
"	"	109	10	100	400	4
"	"	110	10	100	500	5
"	"	106	10	100	600	6
"	"	106	10	100	700	7
"	"	110	10	100	800	8

Remarks.

made $3\frac{1}{2}$ " from
cathodes, $9\frac{1}{2}$ " plate in
rubber disc.

This is first disc.
after new cooling coils
were put in.

out

Very much traces
only disc

NG

Analysis of solution before start.
28.470 B.V. gas per liter
27.71 H₂SO₄ " "

added 2 lb. 10% B.V. } To make re
" 164 cc H₂SO₄ } standard.

Expen #52

Dec 28 20		Volt	amp	Total	Remin
1052	114	10	100		Remin
1132	"	120	100	100	= 51 Expen.
1232	"	108	100	200	
130	"	122	100	300	Except added 8%
230	1200	120	100	400	#2584
330	"	110	100	500	
430	"	128	100	600	
530	"	120	12	700	
620				800	Ant

Experiment 53

Dec. 28, 20.

Time	Vol. of gas	Vol. of air	Temp.	Bar.	Hum.
17-18	12.6	115	95	100	+
15	"	124	10.5	100	100
15	"	119	12	100	200
75	"	118	11.5	100	300
15	12.00	120	9.5	100	400
75	12.00	120	10.5	100	500
85	"	118	11	100	600
95	"	112	10.5	100	700
105	"	119	12	100	800

Experiment 53

Remarks

3 1/2" from anode to cathode,

9 1/2" hole in rubber diaphragm
1/2" from cathode to the rubber bottle which broke the seal of the cathode.

53 P.M. notation of this

1 1/2" wide surface

Content of Solution

Lyamylia

29.82 gms. B.V. Resin

29.84 cc. H₂O₂ "

quantity 1205 @ 1205

Height of these elements
ing more or less high
throughout the time.

Experiment - 54.

Dec 29, 20.

Time	Sp. Gr.	Depth	Vol. of water	Vol. of air	Vol. of gas
2-15	12.00	109	12.5	100	
3-15	"	120	12.5	100	100
4-15	"	133	12.5	100	200
5-15	"	140	13	100	300
6-15	12.00	125	13	100	400
7-15	"	133	12	100	500
8-15	"	128	13.5	100	600
9-15	12.00	127	13	100	700
10-15	"	130	12	100	800

Experiment 54
Remarks

Duplicate of
53 after experiment
content of column
is 27.12 1000 500 1000
276.39 gms. B.V.

out.
Plating active, but thin,
disc has only few
nubs, only one to the right
nubs known as 1/2 inch
of disc 7-15.

Too much time on disc.

Dec 30, 20

Time	Spent	Temp	Volt	Amp	Total	Time
11:00	11:00	120	14	100		
11:10		125	13	100	100	1
11:20		131	14	100	200	2
11:30	12:10	119	14.5	100	300	3
11:40	12:05	117	14.5	100	400	4
11:50		116	14.5	100	500	5
12:00	12:10	119	14.5	100	600	6
12:10		118	13	80	680	7
12:20		112	14.5	95	765	8
12:30		112	13	85	850	9
12:40		126	13	85	935	10
12:50		"	13	85	1020	11

45/1000 Calliper

OK

Expt # 55

Remarks
 Duplicate of #53
 Expt. Expect critical
 resolution by analysis
 25774 gms B.V. Per liter
 23.60 gms. H₂SO₄
 added 12.14 g B.V.
 " 16855 H₂SO₄

act

Run 11 hours @
 100 amp per hour.
 Want to get thick
 disc to finish off the
 back by cleaning.
 Saw units which may
 cause pits when doing
 turn down the disc.
 otherwise good spec.
 measure before turning
 55/1000
 after turned the
 is 45/1000

Dec 31 20

#1 Cook Eper 56

Temp	V. H	Ampl	Steel	Remarks
1210 91	11.5	75		3" from anode.
1210 94	11.5	75	75	9 1/2" hole in anode.
1210 94	11.5	75	150	1/2" from diff. to cathode.
1210 112	11.5	75	225	which breaks down.
1210 100	11.5	75	300	of the solution.
1210 108	11.5	75	375	So R. P. M. on disc.
1210 110	11.5	75	450	14 1/2" anode run for.
1210 110	11.5	75	525	Content of solution.
1210 113	11.5	75	600	same as Eper 55.
1210 117	11.5	75	675	Run at 75 amp.
1210 113	11.5	75	750	still proper this time.
1210 115	11.5	75	825	3 rubber discs to hold

Clippers 39/1000

rubber discs down in place.

New type
Rotator.

39/1000

Had to lower 1/2" to clear plate.

#2 Crocks
Dec 31, 20.

Experiment 57

Time	Temp	Volts	Amps	Remarks
11:55	12.50	100	11.5	7.5
12:05	"	110	11.5	7.5
12:15	"	110	11.5	7.5
12:25	12.10	111	11.5	7.5
12:35	"	123	11.5	7.5
12:45	"	117	11.5	7.5
12:55	11:45	121	11.5	7.5
13:05	11:45	119	11.5	7.5
13:15	"	114	12.5	7.5
13:25	11:45	119	12.5	7.5
13:35	12:00	116	11	7.5
13:45	"	116	12	7.5

Remarks
3" from anode
1/2" baffle to cathode
10 3/4" anode surface
covered by silver wires
depth of anode pot 1 1/2"
50 R.P.M. on disc
Contact of anode with cathode
This is the wood
anode 7.5 inches

1 1/2" $\frac{1}{2}$ 10 3/4"

Wood anode chamber

282.73 gms. H₂O per liter
25.86 cc. H₂O
also added 1 lb. 3.72 BV
188 cc. H₂O

Check on
New type Rotator
while awaiting for rubber
9 1/4" disc.

Had to lower baffle
1" to clear track

31/1000 after turned

Crock 1

Jan 4, 21.

Experiment 58

Time	Temp	Volts	Amps	Remarks
12:05	9.2	85	20	
12:05	9.2	10.5	75	10 1/2
12:05	11.5	11.5	75	85 1 1/2
"	12.0	11.5	75	160 1 1/2
12:05	12.2	11.5	75	235 3 1/2
"	12.0	12	75	310 4 1/2
"	12.5	10.5	75	385 5 1/2
12:10	11.8	10.5	75	460 6 1/2
12:10	12.0	10.5	75	535 7 1/2
12:05	11.5	11	75	610 8 1/2
"	11.8	11.5	75	685 9 1/2
12:10	11.4	12	75	760 10 1/2

Remarks
3" from anode
1/2" baffle to cathode
14 1/2" anode surface
9 1/4" hole in rubber disc
50 R.P.M. on disc
Start at 20 amperes then
raise after 1/2 hour to 75 amperes, run 760 amperes
Very good surface
only 1/2" high from edge
Plate granular effect

Stripped and turned
down to 37/1000

Crack II

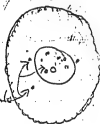
Jan. 4, 21

Time	Temp	Humidity	Wind	Remarks
6:12	12.5	72	8.5	2.0
7	12.05	92	10.5	7.5 10 1/2
8	12.00	118	11.5	7.5 8.5 1 1/2
9	"	117	11.5	7.5 160 2 1/2
110	12.00	118	11.5	7.5 23.5 3 1/2
111	"	118	12	7.5 310 4 1/2
12	"	124	10.5	7.5 388 5 1/2
1	12.10	120	10.5	7.5 460 6 1/2
2	12.00	127	10.5	7.5 535 7 1/2
3	12.05	115	11	7.5 610 8 1/2
4	"	119	11.5	7.5 685 9 1/2
5	12.10	113	12	7.5 760 10 1/2

Expt #59

Remarks
Duplicate of No. 58. Expt.

Muds very much closer
little less than 1/2 inch
Plating granular effect
Pins about 1/2 inch



Striped & turned down
to 37/1000.

1 pit

#1 crack

Jan. 4, 21

Expt #60

Time	Temp	Humidity	Wind	Remarks
12.00	110	12	8.0	
12.05	108	12	7.5	16 1/2
12.10	119	12.5	7.5	8.5 1 1/2
12.15	118	13	7.5	160 2 1/2
12.20	122	13	7.5	235 3 1/2
12.25	120	13	7.5	310 4 1/2
12.30	110	13	7.5	385 5 1/2
12.35	121	12.5	7.5	460 6 1/2
12.40	125	12.5	7.5	535 7 1/2
12.45	121	12.5	7.5	610 8 1/2
12.50	119	12.5	7.5	685 9 1/2
12.55	121	12.5	7.5	760 10 1/2

Remarks
Strip of #58 Expt.
Expt of lifetime
tapers down, & less
acid and B.V. content.

Analysis of contents.
B.V. = 295.88 gms Per liter.
H₂SO₄ = 24.85 cc "
Water smoked slightly
Had to cut down to end

experiment.
granular P₂O₅ fine,
very good surface
quality 12
Cells per 37/1000



#2 block Jan 5, 24 Epper 61

Time Sp. Temp. Vol. Air Temp. Hum. Remarks
Lump of # 58 Epper

600 1200 110 12 20
630 1205 107 12 75 10 1/2
730 1200 120 12 5 75 85 1/2
830 1200 113 13 75 160 2 1/2
930 1200 119 13 75 235 3 1/2
1030 1200 119 13 75 310 4 1/2
1130 " 110 13 75 385 5 1/2
1230 " 110 12 75 460 6 1/2
1330 " 120 12 75 535 7 1/2
230 1200 125 11 75 608 8 1/2
330 " 122 11 75 681 9 1/2
430 1195 123 11 75 760 10 1/2 out
530 " " " " " " " " " " " "

granular peeling
very good surface

caliper 39/1000



Plated slightly low
in about 2" in center of
to putting in disc,
pocket was in center

#1 Core. Epper 62

Jan 5, 24

Sp.	Temp	Vol	Air Temp	Hum	Remarks
100	110	9	20		
1195	112	12	75	10 1/2	Duplicate of Epper 57
1195	128	11.5	75	85 1/2	58 Epper 57: in 1/2 in
1195	130	12	75	160 2	at 20 then 100 lbs at 700 p.
"	120	12.5	75	235 3	120°F
"	123	13.5	75	310 4	Extinct by Douglas
"	122	13.5	75	385 5	B.V. 282.03 gals per liter.
"	1200	112	14	75 460 6	H2S 04 23.48 cc. "
"	118	13.5	75	535 7	Gravity 1195 @ 120°F.
"	120	14	75	610 8	Too acid or B.V. added
"	1195	110	13.5	75 685 9	to this solution since
"	1195	117	13	75 760 10 1/2	Epper #57
"	1195	120	13	75 777 11	out

#2 Rock
Jan 6, 21, Expen #63

Time	45°	100°	120°	140°	160°	180°	200°	220°	240°	260°	280°	300°	320°	340°	360°
1030	1195	120	12	20											
1100	1195	120	12	75	10	1/2									
1200	1195	120	12	75	85	1 1/2									
1	"	120	12	75	75	16	0	2 1/2							
2	"	120	12	75	23	5	3 1/2								
3	"	120	12	75	31	0	4 1/2								
4	"						5 1/2								
5	"						6 1/2								
6	"						7 1/2								
7	"						8 1/2								
8	"						9 1/2								
9	"						10 1/2								
10	"						11								

Remarks
Duplicate of #58
Run same as #62

Out
Discord
Solution crystals
in bottom of block
Bottom of rock section
became too soft
Use all fresh rock



Toward outside pelting
granular

#1 Rock
Jan 7, 21, Expen #64

Time	45°	100°	120°	140°	160°	180°	200°	220°	240°	260°	280°	300°	320°	340°	360°
1030	1195	110	12	20											
1100	"	115	"	75	10	1/2									
1200	"	120	"	75	85	1 1/2									
1	"	"	"	75	160	3/2									

Remarks
Duplicate of #58
Run same as #62
Use all fresh

Solution crystals
at bottom of block
Use all fresh
marked




#2. Crook

Expt #65

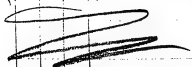
Jan 7 '21

Time	Temp	Volts	Amperes	Feet	Hours	Remarks
12:10	118	8.5	20			3" bath hole to anode.
2:30	1210	114	75	10		1/4" Baffle in under fitted
3:30	120	114.5	75	85		1 1/2" anode surface
4:30	1210	121	12	75	160	9/4" hole in Maple
5:30	122	12	75	235		disc hole covered
6:30						known.
7:30						50 R.P.M. disc rotate
8:30						Start at 20 Amps
9:30						then raise to 75 A.P.
10						at 110-120°F
						Run 1 1/4 hours.

cut out
Pack marked
Plating



1st Expt with
Maple & ice
and side to hold same



#1. Crook

Expt #66

Jan 8 '21

Time	Temp	Volts	Amperes	Feet	Hours
			20		
			75	85	1 1/2
12:10	115	113	75	160	2 1/2
1:10	120	113	75	235	3 1/2
	114	113	75	310	4 1/2
	126	113.5	75	385	5 1/2

Remarks

Leucophaea
of #65 Expt.

Crystals at bottom
of crook retard.
the flow of current
and

#2 Crocks
Jan. 10, 21

Expt #67

Remarks

3" from cathode to anode
1/4" baffle under cathode
14% anode surface
9% hole in maple disc
the hole covered with
liver poison.
Content of solution
244.56 gms BK powder
21.14 cc H₂SO₄

1st disc after cleaning
out crystals from anode
Some are turned out into
in cooled rock to soft

Surface not very
good. Solution very
hot worked in imp



much heavier brown red

Caliper after
turning by Clancy

43/1000

Expt #68

Remarks
clump of #67 Expt

Except run to
795 temp 11 hrs

Jan. 11, 21

Time	Temp	Volt	amp	Time
12:10	125	12	20	
5	125	"	75	10 1/2
6	1200	120	125	75 85 1 1/2
7	"	125	"	75 160 2 1/2
8	119	114	75	235 3 1/2
9	1195	115	13	75 310 4 1/2
10	120	13	75	385 5 1/2
11	1195	123	13	75 460 6 1/2
12	121	13	75	535 7 1/2
13	1200	123	13	75 610 8 1/2
14	119	135	75	685 9 1/2
15	1210	129	14	75 760 10 1/2
16	1205	121	14	75 795 11

Caliper after turning
by Clancy

42/1000



the product
disc had a small
center

#2 Crook
Expt # 69

Jan. 12, 21

Time	Spgr	Temp	Wts	Ans	Wts	Ans	Remarks
4:30	1200	118	10	2.0			Slip off #67 Expt
5:30	"	113	14	75	10	1/2	Except run to 797 lbs
6:00	1190	115	11	75	85	1	11 hours
6:30	"	126	11	75	160	2	
7:30	"	120	11	75	235	3	
8:00	1200	"	12	75	310	4	granular surface
9:30	"	"	12	75	385	5	
10:30	"	125	11.5	75	460	6	
11:30	1210	"	11.5	75	535	7	
12:30	"	"	11.5	75	610	8	
1:30	"	"	11.5	75	685	9	
2:30	1230	"	11.5	75	760	10	
3:00	"	"	11.5	37	797	11	

Steam was turned
off between 6:30 &
8:30 by someone
and had been set
crystallized at bottom of

Would be better due to
not shipping good.

Could not turn
account of it much
left.

#1 Crook Expt # 70
Jan. 13, 20

#70 Expt

Time	Spgr	Temp	Wts	Ans	Wts	Ans	Remarks
8:30	1210	118	9	2.0			To see what form acid content would make.
9:30	1205	118	12	75	10	1/2	Content of solution
10:30	120	12	75	85	1 1/2		294.84 gms. H ₂ O water
11:30	1210	120	12	75	160	2 1/2	20.05 cc H ₂ SO ₄
12:30	1205	125	12	75	235	3 1/2	due to someone turning off steam
1:30	"	125	12	75	310	4 1/2	and had to clean out #2 Crook
2:30	1200	130	12	75	385	5 1/2	which was very much crystallized.
3:30	"	125	12	75	460	6 1/2	Temperature of rock fell to 85° F.
4:30	1200	125	12	75	535	7 1/2	
5:30	1195	122	12	75	610	8 1/2	
6:30	1200	120	12	75	685	9 1/2	
7:30	120	125	75	760	10 1/2		
8:30	120	12	75		11 1/2		

This disc very rotten
very much trees at edge and
"mils from" of outer
edge to center of disc, setting
disc little better than

removed trees from outer edge
was 3/4" long.

Some mils 18" high



Experiment # 71

Jan 14, 21.

Temp	Sp. Hr	Temp	Volts	Amps	Total	Hours
6 ⁰⁰	1210	116	8.5	20		
7 ¹⁵	1200	111	12.5	75	10	3 ⁰⁰
8 ¹⁵	121	13	75	85	1 $\frac{1}{2}$	"
9 ¹⁵	1200	122	14	75	16.0	2 $\frac{1}{2}$
10 ¹⁵		120	13.5	75	28.5	3 $\frac{1}{2}$
11 ¹⁵	1200	120	13	75	310	4 $\frac{1}{2}$
12 ¹⁵	1200	122	13	75	385	5 $\frac{1}{2}$
1 ¹⁵	"	119	13.5	75	460	6 $\frac{1}{2}$
2 ¹⁵	"	125	13.5	75	535	7 $\frac{1}{2}$
3 ¹⁵	"		13.5	75	610	8 $\frac{1}{2}$
4 ¹⁵	1245			75	685	9 $\frac{1}{2}$
5 ¹⁵				75	760	10 $\frac{1}{2}$
6 ¹⁵				75	845	11 $\frac{1}{2}$

Remarks

Content of solution
294.8 grams B.V.
Per liter
20.05 cc H₂SO₄
Per liter
added 200 cc H₂O
to total acid solution
25 cc Per liter

Caliper 36 | 1000
OK

Jan 14, 21

Temp	Sp. Hr	Temp	Volts	Amps	Total	Hours
11 ⁰⁰	125	120	20			
11 ¹⁵	130	"	75	10	1 $\frac{1}{2}$	
"	"	"	75	85	1	
11 ⁴⁵	"	12.5	75	160	2	
"	"	"	75	235	3	
12 ⁰⁰	132	"	75	310	4	
12 ⁰⁵	130	"	75	385	5	
12 ¹⁰	125	13.5	75	460	6	
"	137	12.5	75	535	7	
12 ¹⁵	128	12.5	75	610	8	
12 ²⁰	131	12.5	75	685	9	
"	128	12.5	75	760	10	
12 ²⁵	127	12.5	75	845	11	

Experiment # 72

Remarks

Content of solution
283.4 + 187 gals. H₂O
23.34 H₂SO₄ cc
added 80 cc H₂O
to make 25 cc H₂SO₄
per liter.

out
This mold slipped
while on the lathe
raising a chip in
the lathe and had
to turn down to
make a smooth
surface, which
when caliper
measured 30/1000

30/1000

new steam coil

Jan 15, 21.

Time	Sp. Gr.	Temp.	Vol.	Wt.	Time	Remarks
1	12.00	112	9	20		
1:30	12.00	120	12	75	10	K ₂
2:30	12.00	125	12.5	75	85	1
3:30	12.00	116	14	75	160	2
4:30	12.05	119	13.5	75	235	3
5:30	12.05	124	13.5	75	310	4
6:30	12.05	124	13.5	75	385	5
7:30	12.05	140	14	75	460	6
8:30	12.05	129	13.5	75	535	7
9:30	12.05	136	13.5	75	610	8
10:30	12.05	133	14	75	685	9
11:30	11.95	130	14	75	760	10
12:30	12.05	133	14	37	797	11

Expt #73

Remarks
Duplicate of #72 Expt.

Location of Solution

265 to 70 gms B.V. in water

19.50 cc H₂SO₄

added 2 lb 200 B.V.

" 264 cc H₂SO₄

1 p. m. solution

285 B.V. + 250 cc H₂SO₄

out

Put in new steam coil

37/1000 thick

OK

Pinch product & time
in water only

Jan 17, 21

Expt #74

Time	Sp. Gr.	Temp.	Vol.	Wt.	Time	Remarks
1	12.00	130	11	20		
1:30	12.00	135	11	75	85	1/2
2:30	12.00	140	11	75	160	2
3:30	12.00	130	12	75	235	3
4:30	12.00	125	12.5	75	310	4
5:30	12.00	135	12.5	75	385	5
6:30	12.00	135	12.5	75	460	6
7:30	12.00	135	12.5	75	535	7
8:30	12.00	130	13	75	610	8
9:30	12.00	132	13	75	685	9
10:30	12.00	135	13	75	760	10
11:30	12.00	135	13	37	797	11

Remarks

Contact of solution

242.27 gms B.V. in water

18.26 cc H₂SO₄

added 300 gms B.V.

" 296 cc H₂SO₄

to make sol. 285 B.V. + 250 cc H₂SO₄

1 p. m. solution

285 B.V. + 250 cc H₂SO₄

to the sol.

9. 10. 11.

10. 11.

11.

Tapered disc because of a hollow center when moulds put in if they were the least bit concave they would carry a low plated surface.



How water holds an air pocket when put down perpendicular. Reason why off at the disc.

40/1000
OK

Jan. 18, 21.

TIME	Sp. Gr.	Temp.	Vol.	Angle	Total H ₂ O.
10-	1190	125	10	20	
10 ³⁰	"	130	12	75	10 1/2
11 ⁰⁰	"	135	12	75	85 1/2
12 ⁰⁰	"	140	13	75	160 2 1/2
1 ³⁰	1220	140	13	50	230 3 1/2
2 ³⁰	"	140	"	50	280 4 1/2
3 ³⁰	"	145	13.5	60	330 5 1/2
4 ³⁰	1190	"	"	60	390 6 1/2
5 ³⁰	"	"	"	65	450 7 1/2
6 ³⁰	"	"	14	75	515 8 1/2
7 ³⁰	1220	140	"	75	590 9 1/2
8 ³⁰	1190	130	"	75	665 10 1/2
9 ³⁰	"	135	14 1/2	75	740 11 1/2
10 ³⁰	"	"	"	75	815 12

Expt. #75

Remarks
Duplicate of #74

Resident of solution

287.43 BV gas per liter
24.44 H₂SO₄

added 2 lbs BV
" 150 cc H₂SO₄

Use to crystals in bottom of which present 50 drops

Repairman turned off steam to pumps
Allowed to
another empty
space OK
Steam was locked and it was necessary to wait for morning before we could get off and pump again

Jan. 19, 21.

TIME	Sp. Gr.	Temp.	Vol.	Angle	Total H ₂ O.
1215	130	"	20		
"	132	10	75	10 1/2	
"	135	"	75	85 1 1/2	
1240	135	10	75	160 2 1/2	
"	135	10	75	235 3 1/2	
"	138	10.5	75	310 4 1/2	
"	135	10.5	75	385 5 1/2	
"	132	10.5	75	460 6 1/2	
"	130	10.5	75	535 7 1/2	
"	135	10.5	75	610 8 1/2	
"	138	"	75	685 9 1/2	
"	140	"	75	760 10 1/2	
"	"	"	37	797 11	

Expt. #76

Remarks.
Had no in face disc

no took a sample
will turn solution over
then give it in for further
content of solution

278.84 gms BV. Per liter
28.22 cc H₂SO₄
added 1 lbs BV

Cont.

Caliper 36 / 1000 OK
OK

The wood angle piece broke off
with the piece which holds glass in bath
and lost made sample



Jan. 20, 21. Exper #77

In	Sp. No.	Temp	Volt	Amps	Stal	Hrs
2	1195	135	10.	20		
230	"	140	10.	75	10	1/2
330	1190	137	10.	75	85	1 1/2
430	1195	135	10.	75	160	2 1/2
530	"	132	"	75	235	3 1/2
630	1190	135	11	75	310	4 1/2
730	"	140	"	75	385	5 1/2
830	"	140	11.	75	460	6 1/2
930	1195	135	11.	75	535	7 1/2
1030	"	135	11.	75	610	8 1/2
1130	"	120	"	11.5	685	9 1/2
1230	"	135	12.	75	760	10 1/2
1330	1190	"	12.	37	997	11

Remarks.

Content of solution
275.94 gms Bk. Per liter
2299 cc H₂SO₄ "
added to the 11 g
11.02 B.V.
97 cc H₂SO₄
Mr Edison Memo
Female which has been
pulled off, near in
to bath 60 Amps
Mr Mullen then back
up in 75 Amps
bath to 79% Ant
turned down and
make 2 test print
to see if any trace
arises.

Out

Calypso
36/1000

Jan. 24, 21.

In	Sp. No.	Temp	Volt	Amps	Stal	Hrs
190	135	11.	20			
1195	"	11.5	75	10	1/2	
1190	"	11.5	75	85	1 1/2	
"	"	11.5	75	160	2 1/2	
"	"	11.5	75	235	3 1/2	
1195	130	12.	75	310	4 1/2	
"	130	12.	75	385	5 1/2	
"	"	"	75	460	6 1/2	
"	"	"	75	535	7 1/2	
"	"	"	75	610	8 1/2	
"	"	"	75	685	9 1/2	
"	"	"	75	760	10 1/2	
"	"	"	35	995	11.	

Exper #78

Remarks

This is experiment
#12 in lake
To be turned and
2 prints made
to see if any
trouble arises, as
per memo of Mr Mullen
Except did not put
any regular nickel
bath pan in last
plate in bath & his
to 60 amp.
Out

Steam coil eaten through & his
before now finished
oil lasted 10 days.

2nd disc from Rubber pan
1st disc after angle of
disc was changed 3/4
to foot

Jan. 25, 21. Exper #79

Remarks

Time	Sp. R.	Sp. I.	Vat	Temp	Sp. R.	Sp. I.
4:15	1195	135	10	70		
5:15	"	"	10	75	10	1
6:15	1200	140	11	75	85	2
7:15	"	"	11	75	160	3
8:15	"	"	11	75	235	4
9:15	1195	"	11	75	310	5
10:15	"	"	11	75	385	6
11:00	1135	115	11	75	460	7
12:30	1200	11	11	535	8	
3:00	1190	11	11	8169		
4:30	"	"	"	685	10	
5:30	1195	"	"	750	11	

Free what difference
and shake against
the rocking jar.
and steam (oil)
wood tank to hot
Content of solution
289.52 gms BV per liter
12.11% H_2SO_4 " "
added 450 cc H_2SO_4 to
make standard

1st Exper. on
Rutherfordian
Caliper 43 1000

Exper #80

Remarks.

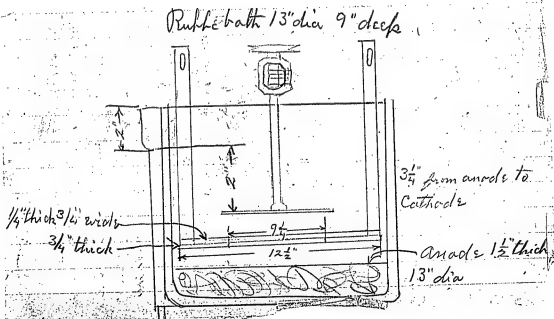
Neopentate of Exper #79

Time	Sp. R.	Sp. I.	Vat	Temp	Sp. R.	Sp. I.
12:00	1300	130	10	20		
"	"	"	10	75	10	1/2
"	"	"	10	75	85	1 1/2
"	1335	105	"	"	160	2 1/2
11:05	"	105	"	"	285	3 1/2
12:00	"	105	"	"	310	4 1/2
"	130	11	"	"	385	5 1/2
"	135	11	"	"	460	6 1/2
"	"	115	"	"	535	7 1/2
"	140	12	"	"	610	8 1/2
"	145	12.5	"	"	685	9 1/2
11:45	140	"	"	"	710	10 1/2
12:00	140	"	"	"	790	11

Content of Sol
297.76 BV gms R. liter
22.24 H_2SO_4 cc " "
added to make standard
sol. 116 cc H_2SO_4 cc
Crystallized at bottom
after run was finished.
Pleasantly surprised
OK granules

Caliper 43 1000
very good

[ITEM(S) FOUND IN BOOK]



Expt # 81

Time	Spgr	Temp	Vib	Wt	Total	Wt
1:30	1190	135	19	20	10	1/2
2	"	140	19	75	10	1/2
3	"	140	19	75	85	1 1/2
4	1200	145	85	75	160	2 1/2
5	1190	150	"	75	235	3 1/2
6	"	152	"	75	310	4 1/2
7	"	150	"	75	385	5 1/2
8	1200	"	9	75	460	6 1/2
9	1190	"	"	75	535	7 1/2
10	"	"	9.5	75	610	8 1/2
11	"	"	"	75	685	9 1/2
12	"	"	"	75	760	10 1/2
12:30	"	"	"	37	797	11

Remarks
 Duplicate of # 80
 Except not disc
 jar with filter, etc
 19% marble dust
 taken out.



Oct.

28/1000 thick
 Too thin for use

now much thicker
 light enough to use

Content of Sol
 299.41 gms 87% Pos. 100%
 17.03/100 = 50.4%
 add 336 cc H₂O
 2.5 in water

Feb 2, 21

Expt # 82

Time	Spgr	Temp	Vib	Wt	Total	Wt
1:30	1190	140	6	20	10	1/2
"	"	130	9.5	75	10	1/2
"	"	140	"	"	85	1 1/2
12:00	"	"	"	"	160	2 1/2
11:40	140	"	"	"	235	3 1/2
"	"	"	"	"	310	4 1/2
"	"	"	"	"	385	5 1/2
"	"	135	"	"	460	6 1/2
"	"	137	"	"	535	7 1/2
"	"	140	"	"	610	8 1/2
12:00	"	"	"	"	685	9 1/2
11:40	"	"	"	"	760	10 1/2
"	"	"	"	37	797	11

Remarks
 New table as it
 will be for regular
 production

Made 10% paper disc
 1 1/2" x 10 1/8" anode

Had to take off beads
 at outer edge.

This is first disc at new table

41/1000 after turning

OK

Feb 3, 21 Experiment # 3

Plate	Exp.	Temp.	Vol.	Temp.	Vol.	Remarks
930	1190	130	8.5	20	350	Duplicate of #1
10	"	"	"	7.5	10	82 Expan.
11	"	135	10	7.5	85	
12	"	"	12	7.5	160	Content of Sol
13	"	135	"	7.5	285	273.49 P.V. gaw for liter
12	"	137	13	"	310	26.50 H2SO4 cc.
3	"	135	11	"	365	add, 1 lb. P.V.
4	"	"	11	"	480	make standard sol
5	"	135	8.5	"	535	
6	"	"	"	"	610	
7	"	"	"	"	685	
8	"	"	"	"	760	
830	"	"	"	"	797	Out

43 / 1000 after turned
OK

Feb. 4, 21. Expon # 84

Year	Alt	Temp	Wind	Remarks
1904	135	9	20	
"	"	"	75	
"	"	8.5	75	
"	"	"	75	
"	"	"	75	
"	12	"	75	
"	"	8	75	
"	140	8	75	
"	135	8	75	
1905	132	12	75	
1906	132	8	75	
"	"	8	37	

43/000
Took no cut steel tool to
" " " recommended to finish
memo says it generally takes
2 to 3 cuts on steel tool
before cutting or scoring
with diamond hand
OR

Feb 5, 21.

Expt #85

Time	Sp. In	Temp	Volt	Amph	Stall	Rev.
5:30	1190	132	8	20		
6	"	"	9	75	10	1/2
7	"	"	9	75	85	1 1/2
8	"	135	"	75		2 1/2
9	"	"	"	75		3 1/2
10	"	132	"	75		4 1/2
11	"	"	"	75		5 1/2
12	"	135	11.5	75		6 1/2
1	"	12.0	"	75		7 1/2
2	"	"	10	75		8 1/2
3	"	"	"	75		9 1/2
3:45	"	"	"	75		10 1/2
4:30	"	"	"	37	199	11

Remarks
Duplicate of #84
Expt

Caliper 47/1000

Feb 8, 21

Expt #86

Time	Sp. In	Temp	Volt	Amph	Stall	Rev.
11:40	130	9	20			
"	"	12	75	10	1/2	
"	135	"	75	85	1 1/2	
"	139	"	"		2 1/2	
"	145	"	"		3 1/2	
"	"	"	"		4 1/2	
"	"	9	"		5 1/2	
"	190	9	"		6 1/2	
"	"	12	"		7 1/2	
"	"	"	"		8 1/2	
"	"	"	"		9 1/2	
"	"	"	"		10 1/2	
"	"	"	"	797	11	

Remarks

Filled anode chamber, 4 Expts
instruments made and
shot used up equal to
1/4 thick x 10 1/2 surface.
This disc is 2"
from anode.
Removed baffle to
see what happens.

Out

New copper heating coil
to solution lined put in last one
stood 8 weeks.

Caliper 42/1000

Looking up dirt at center
takes rougher plating than when the baffles
was in. other wire plated good

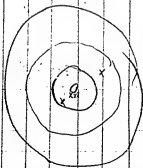
Expt #87

Time	g	h	Vol	Amp	Total Hrs
9:30	1190	135	9.2	20	
4	"	"	12	75	10 1/2
5	"	"	"	75	85 1/2
6	"	"	"	"	2
7	"	"	"	"	3
8	"	"	11	"	4
9	"	"	11	"	5
10	"	"	"	"	6
11	"	"	"	"	7
12	"	140	9.5	"	8
1	"	"	"	"	9
2	"	135	"	"	10 1/2
3	"	"	"	"	37 79 11

Remarks
Cathode 2" from
anode removed
the baffle which
stops the swirl
to see what happens
This is a duplicate
of Expt #86.

Picks up small
10% particles dirt which
makes mubs that
show up as patches
when turned by letter

Caliper
41/1000



Field 9, 21

g	h	Vol	Amp	Total Hrs
1200	135	9.5	20	
"	"	"	75	10 1/2
"	"	"	"	85 1/2
"	"	"	"	2 1/2
"	"	"	"	3 1/2
"	"	"	"	4 1/2
"	"	"	"	5 1/2
"	"	"	"	6 1/2
"	"	"	"	7 1/2
"	"	"	"	8 1/2
"	"	"	"	9 1/2
"	"	"	"	10 1/2
"	"	"	"	11

Expt #88

Remarks
Transfer from Expt #86
in plate
Anode
Pulsing
Rough 1/2 from anode
No baffle to stop
swirl
1 hr at 100amps
1 " " 60 "
Then in lower backing
to 797 Amps
1 hour at 200amps
10% " " 75 Amps
then stop and make
2 prints for test plates

Match up Expt #91
with Expt #88

Notes of 200
25 gms BK Resin
26.00 Hz 50 gms Resin

Feb. 10, + 11, 24.

Eyer #89

Time	Sp. Sn	Imp.	Volt	Ap	Stk	Ans	Remarks
9:30	1180	95	9.	20			Mr. Sullivan sent
10	"	"	12.	75	10	1/2	Memo to Mr. Eyer
11	"	"	13.	75	85	1 1/2	asking to make
12	"	"	"	68	160	2 1/2	special account
1	"	"	"	69	225	3 1/2	of foot plating plate
2	"	"	"	72	297	4 1/2	for a chamberlain
3	"	"	"	73	369	5 1/2	for Masons outfit
4	"	"	"	72	442	6 1/2	Wm. Filginsia House
5	"	"	"	75	514	7 1/2	Male artist
6	"	"	12	75	89	8 1/2	Model # 3333-B
7	"	"	"	78	64	9 1/2	Contents of Sol
8	"	"	"	75	72	10 1/2	290.07 gms B.L. Pylis
9	"	"	"	75	79	11 1/2	226.07 cc H ₂ O @ 20°
10	"	"	"	37	812	12	add 700 cc H ₂ O
11	"	"	"	"	"	"	112 cc H ₂ O to make standard.

Mr. faced in regular bath.
This master to make a working female

OK

Eyer #90

Time	Sp. Sn	Imp.	Volt	Ap	Stk	Ans	Remarks
							Mr. Sullivan sent
							Model from Eyer #89
							Model # 3333-B
							Transferred from Eyer #89

Content 20 Amp. each
the 15 Amp. for 15 hrs.
11 hrs

OR

This working female made a working model gave to Mr. Eyer Feb. 21.

OK

Sunday Feb. 13 20 Eps 93

Temp average 85°F A.R.

24 1/2 hrs

12.1 amps

Cold Plate

OP 163141

OP 163141
Sawdust to potatoes and
cold plate

Temp to Eps #94

Feb. 15, 21

Eps #94

Time	Sp. Am	Temp	Volt	Amps	Total	Remarks
10:00			60			
10:15			60			

Run without 10 amps
" 10 1/2 " " 75 "

Temp from Eps #94 to plate

OP 163141

Thermal making working model
for # 3491 C-1
Jan. 16, 21.
M. L. L. L.

Feb. 17, 21

Eggs #95
Remarks.

Time	Temp	Volts	Amperes	Total	Remarks
9:30	120	130	9	20	
10	"	"	11	7.5	
11	"	"	10.5	8.5	
12	"	"	"	"	
1	1240	"	"	"	
2	1300	135	"	"	
3	"	"	"	"	
4	"	140	"	"	
5	1210	135	"	"	
6	1200	130	"	"	
7	1200	"	"	"	
8:30	"	"	"	"	

Keep temp above
130°F & not over 140°F
Want to see if the
nubs will be
eliminated.
Vid not do it
nubs same as
usual, other
part O.K. plates
out

OK Plate

Had to knock nubs
off after 9 hrs. later

Feb. 18, 21

Eggs #96
Remarks.

Time	Temp	Volts	Amperes	Total	Remarks
9:30	120	130	9	20	
10	"	"	10.5	7.5	10 1/2
11	"	"	"	"	8.5 1 1/2
12	1205	135	"	"	2 1/2
1	1200	"	"	"	3 1/2
2	"	"	"	"	4 1/2
3	"	"	"	"	5 1/2
4	1205	"	"	"	6 1/2
5	"	130	"	"	7 1/2
6	"	"	"	"	8 1/2
7	"	"	"	"	9 1/2
8	"	"	"	"	10 1/2
9	"	"	"	"	
10	"	"	3 1/2	797	11

Feb. 21. 21.

Time	Sp. Gr.	Temp.	Vol. H ₂ O	Total H ₂ O
9:30	1220	130	9	20
10	"	"	10.5	75
11	"	"	10	25
12	"	"	"	"
1	"	"	"	"
2	"	"	"	"
3	"	"	"	"
4	"	"	"	"
5	"	"	"	"
6	"	"	"	"
7	"	"	"	"
8	"	"	"	"
8:30	"	"	"	"

Experiment 97

Remarks

Try to get rid of
mils. Keep gravity at
1220 at 130°
~~1220~~
The mils have
slightly changed
their form and
more closely fit

Plating OK

Had to knock off the
mils after 9 hrs plating

Feb. 23. 21.

Time	Sp. Gr.	Temp.	Vol. H ₂ O	Total H ₂ O
9:30	1220	130	9.5	20
10	"	"	9	75
11	"	"	"	85 1/2
12	"	"	"	2 1/2
1	"	"	"	4 1/2
2	"	"	"	5 1/2
3	"	"	"	6 1/2
4	"	"	"	7 1/2
5	"	"	"	8 1/2
6	"	"	"	9 1/2
7	"	"	"	10 1/2
8	"	"	"	11 1/2
8:30	"	"	"	12 1/2

Experiment 98

Remarks

Try to get rid of
mils. Keep gravity
at 1230 at 130°
at 1230 at 130°

Plating OK

Had to knock off the mils
after 9 hrs plating.

Feb. 24, 21

Time	pp	pp	Long	Volts	Amperes	Watts
2	1200	1200	10.	20	10	1/2
230	"	"	10.	75	85	1/2
330						2 1/2
430						3 1/2
530						4 1/2
930						5 1/2
1030						6 1/2
1130						7 1/2
1230						8 1/2
130						9 1/2
230						10 1/2
330						11

Epper #99

Duplicate of Epper #96
 Watch for brush on outer margins
 Regular quantity
 Content
 200 An Sd (1200 @ 1300 F)
 11

#5269-A
 Eastern Supplement
 March, 1921

Turn out at 5:00 p.m.

Epper #100

pp	pp	Long	Volts	Amperes	Watts	Remarks
1200	1300	10	75	200	200	Medley master punch
1230	"	"	"	275	1	New solid table
"	"	"	"	350	2	Arrows chamber in
"	"	"	"	425	3	Lock + sample buffer
"	"	"	"	500	4	Connecticut to screen
"	"	"	"	575	5	Backed up with 200
"	"	"	"	650	6	Supp. in regular
"	"	"	"	725	7	Back before fast
"	"	"	"	800	8	plating

1st Eastern
 Selection

Easter Supplement # 5269-B
March 1/21

Experiment 70

Zinc	Sp. Temp.	Volt	Days	Total hrs.	Working material
10 th	125	130	10	75 200	female N wool
11	"	"	"	75 275	anode chamber
12	"	"	"	75 350	high bottle 10
1	"	"	"	75 425	wood cylinder
2	"	"	"	75 500	fastened to it
3	"	"	"	75 575	brashed up
4	"	"	"	75 650	200 amp. the fast
5 th	"	"	"	75 725	plate
16 th	"	"	"	75 800	84 out

2nd
Easter Selection

Easter Supplement # 5269-C
March 1/21

Experiment 70

Zinc	Sp. Temp.	Volt	Days	Total hrs.	Remarks
10 th	125	130	10	75 300	backed up with
11	125	130	10	75 375	300 amp. reg. bath
12	125	130	10	75 450	then first plate
1	125	130	10	75 525	in both with
2	125	130	10	75 600	maple anode chamber
3	125	130	10	75 675	+ baffles on separate
4	125	130	10	75 750	10 th 84 out
5 th	125	130	10	75 825	200 amp. the fast
16 th	125	130	10	75 900	84 out

3rd
Easter Selection

Easter Supplement
#4336a
March 120

Egg 103

Time	Sp. In.	Inj. In.	Vet.	Amk	Total No.
530	125	130	10	75	300
630	125	"	"	75	375
730	125	"	"	75	450
830	125	"	"	75	525
930	125	"	"	75	600
1030	125	"	"	75	675
1130	125	"	"	75	750
1230	125	"	"	75	825

Remarks
Mixing material for
back up right
300 Amk, reg.
back thin front
plate - solid
butter smooth
cleaner - height
buffer at 9:30
added 500 c.c.
quartz to 40mm
rate of compaction
at 10:30 1000 c.c.
quartz at 11:30
added 1500 c.c.
water
Boiled with
rubber under
chamber - slow
and down, not
give too much

4th Easter Selection

Easter Supplement
#3753-C
March 2/51

Egg 104
Remarks

Time	Sp. In.	Inj. In.	Vet.	Amk	Total No.	Remarks
530	125	130	10	75	300	female, one egg
630	125	"	"	75	375	reg. back 230 eggs
730	125	"	"	75	450	thin front plate
830	125	"	"	75	525	rubber smooth
930	125	"	"	75	600	chamber, set 11:30
1030	125	"	"	75	675	added 1500 c.c. water
1130	125	"	"	75	750	
1230	125	"	"	75	825	Cent

5th Easter Selection

Eastern Supplement
4336-B
Mar. 2/21

Exp. 104

Remarks.

Time	Sign	Temp.	Wet	Age	Total	Hum.
10:45	125	130	10	75	235	
11:45	122	130	10	75	310	1
12:45	122	"	"	75	385	2
1:45	1220	"	"	75	460	3
2:45	1220	"	"	75	535	4
3:45	"	"	"	75	610	5
4:45	"	"	"	75	685	6
5:45	"	"	"	75	760	7
6:45	"	"	"	75	835	8

feeding Ministry
female - 100%
very leg. 100%
with 2 hr. 7 hr.
fast plate, 100%
adult clamber.
At 11:45 added
100 c. c. water.

Cent

6th
Eastern Selection

Eastern Supplement
4002 B-1

Exp. 105

Time	Sign	Temp.	Wet	Age	Total	Hum.
10:45	1229	130	10	75	125	
11:45	1222	130	10	75	200	1
12:45	1222	130	11	75	275	2
1:45	1223	130	10	75	350	3
2:45	1223	130	10	75	425	4
3:45	1223	130	10	75	500	5
4:45	1220	"	"	75	575	6
5:45	"	"	"	75	650	7
6:45	"	"	"	75	725	8
7:45	"	"	"	75	800	9

female, female
feeding 100%
mild, at 7 hr.
Add 100 c. c. 1/2
water, at 100%
and 100% every hr.
After.

Cent

7th
Eastern Selection

Expt #106

Time	Sp. Gr.	Temp.	Volt	Amper.	Wt.	Remarks
3:	1260	130	10	20		
3:30	"	"	"	75	10 1/2	
4:30	"	"	"	"	85 1/2	
5:30	"	"	"	"	160 2 1/2	
6:30	"	"	"	"	235 3 1/2	
7:30	"	"	"	75	310 4 1/2	
8:30	1210	"	"	"	365 5 1/2	
9:30	1212	"	"	"	460 6 1/2	
10:30	1218	"	"	70	530 7 1/2	
11:30	1219	"	"	70	600 8 1/2	
12:30	1222	"	"	70	670 9 1/2	
1:30	1219	"	"	70	740 10 1/2	
2:45	"	"	"	70	810 11	

Out 3:30

add 1 1/2 hr.

8th
Easter Selection

Expt #107

Time	Sp. Gr.	Temp.	Volt	Amper.	Wt.	Remarks
3:	1220	130	10	20		
3:30	"	"	"	75	10 1/2	
4:30	"	"	"	"	85 1/2	
5:30	"	"	"	"	160 2 1/2	
6:30	"	"	"	"	235 3 1/2	
7:30	"	"	"	"	310 4 1/2	
8:30	1210	"	"	"	365 5 1/2	
9:30	1212	130	10	"	460 6 1/2	
10:30	1218	"	"	"	535 7 1/2	
11:30	1219	"	"	70	605 8 1/2	
12:30	1222	"	"	70	675 9 1/2	
1:30	1219	"	"	70	745 10 1/2	
2:45	"	"	"	70	815 11	

Set 1 1/2 hr.
because of
fruiting resistance
carbon. Add
at 12:30, 2 1/4
hr. Out at 4:00

9th
Easter Selection

Experiment #109

Time	Sp. No.	Temp	Volt	Amp	Total	Area	Remarks
5:46	1228	130	8	75	120		Nothing working
6	1223	"	8	75	195	1	female
7	"	"	"	75	270	2	#5269C-1
8	"	"	"	50	320	3	Had 120 Amps sleep
9	"	125	10	50	370	4	lopping, then sleep
10	"	130	"	75	445	5	
11	"	"	"	75	520	6	
12	"	"	"	75	595	7	#58 in Eppur, etc
1	"	"	"	75	670	8	in faced on this
2	"	"	"	75	745	9	mould.
3	"	"	"	75	820	10	Out
4						11	

10th Easter Selection

Experiment #109

Time	Sp. No.	Temp	Volt	Amp	Total	Area	Remarks
5:46	1228	130	8	75	130		Nothing
6	1223	"	"	75	205	1	1 master, female
7	"	"	"	75	280	2	#3995 A
8	"	"	"	50	330	3	Had 130 Amps sleep
9	"	125	11.0	50	380	4	plate copper, then
10	"	130	"	75	455	5	first played
11	"	"	"	75	530	6	
12	"	"	"	75	605	7	
1	"	"	"	75	680	8	was in first night
2	"	"	"	75	755	9	
3	"	"	"	75	830	10	Out
4						11	

#11 Easter Selection

March 4, 21

Time	Supp.	Temp	Wet	Angs	Total	Mo.
530	1220	120	8	1	150	0
430	"	"	"	75	225	1
520	"	"	"	75	300	2
630	"	"	"	75	575	3
730	"	"	"	75	450	4
830	"	"	"	75	525	5
930	1223	"	"	75	600	6
1030	"	"	"	75	675	7
1130	"	"	"	75	750	8
1230	"	"	"	75	825	9

Eggs #11

Remarks
Working mould
3733 42
had 150 ang
slow plate, then
looked up with
9 hrs flat plate

Cut

12th Easter
Selection

March 4, 21

Time	Supp.	Temp	Wet	Angs	Total	Mo.
530	1220	120	8	1	295	0
430	"	"	"	75	325	1
520	"	"	"	75	400	2
630	"	"	"	75	475	3
730	"	"	"	75	550	4
830	"	"	"	75	625	5
930	1223	"	"	75	700	6
1030	"	"	"	75	775	7
1130	"	"	"	75	850	8

Eggs #111

Remarks
Working mould
4433 02
had 275 ang/220 ang
plate, then looked
up with 73 hrs
flat plate in

Cut

3rd Easter
Selection

March 5, 21.

Eyes, #11
Remarks

Time	Sp.	Temp	Volt	Amper	Total	Obs
11:30 AM	12-23	130	8	75	75	
12:20	1224	"	"	75	150	1
1:30	"	"	"	75	225	2
2:20	1223	"	"	75	300	3
3:20	"	"	"	75	375	4
4:30	"	"	"	75	450	5
5:30	"	"	"	75	525	6
6:20	"	"	"	75	600	7
7:30	-	-	-	75	675	8
8:20	1220	130	8	75	750	9
9:20	"	"	"	75	825	10

Making Weston
female
#4336-B
Had 75 amps
slow plating -
then backed up
with 10 hrs. fast
plating.

Out

15th Easter
Selection

March 5, 21.

Eyes, #113

Remarks

Time	Sp.	Temp	Volt	Amper	Total	Obs
11:30 AM	1224	130	8	75	85	
2	1223	"	"	"	160	1
3	"	"	"	"	230	2
4	50	"	"	"	305	3
5	"	"	"	"	380	4
6	"	"	"	"	455	5
7	"	"	"	"	530	6
8	-	-	-	-	605	7
9	12-20	130	8	"	680	8
10	"	"	"	"	755	9
11	"	"	"	"	830	10

Making work on
model of
#4433C-1
Had 85 amps
slow plating
- then back 10 hrs.
eyes with 10 hrs.
fast plating

Out

15th Easter
Selection

Experiment on a Core

Expt. # 114

Remarks.

Time	Sp. gr.	Temp.	Volt	Age	Total	Min.
2:30	1220	78°	4½	1		
3:30	1220	78°	11½	2	1.2	1
4:30	1220	78°	4½	2	3	2

Plating
Core - core
with a thin layer
of machine oil
thin with graphite
by Ford Co.
Special type
copper, 1220 K
copper plate, 1220
- wood core
chamber holding
a few shot, with
the machine
Plating
from top down
at end of 2½ hrs.
Core was clear
bottom line of fine
under graphite
graphite, probably
existing because of
blister.

4.5 in
Core
Plating

acid 14 hrs.

March 8/21

Expt. # 115

Remarks.

Time	Sp. gr.	Temp.	Volt	Age	Total	Min.
0:45	1223	130	8	75	140	
1:45	1230	130	8	75	215	1
2:45	1230	130	8	75	290	2
3:45	1223	130	8	75	365	3
4:45	1223	130	8	75	440	4
5:45	1223	130	8	75	515	5
6:45	1223	130	8	75	590	6
7:45	1223	130	8	75	665	7
8:45	1223	130	8	75	740	8
9:45	1223	130	8	75	815	9

Making a
wooden barrel
3945A-1
had 140 amps.
close plating
even back of
with 9 hrs. past
plating.

Cont.

16 Easter Selection

acrid 6 hrs.

March 9th

Expt. # 116
Remarks

Time	Temp	Vol	Temp	Total	hrs.	Remarks
10 AM	1202	130	8	75	150	Working normal
11	1210	130	8	75	225	# 3995 B 4
12	1213	130	8	75	300	Hard 150 amper
1 PM	1218	130	8	75	375	slow plotting -
2	1224	130	8	75	450	than back 1/2 hr.
3	"	"	"	"	525	fast plotting for 1
4	"	"	"	"	600	8 3/4 hrs.
5	"	"	"	"	675	
6	"	"	"	"	750	
6:45	"	"	"	"	825	8 3/4 Out,

17 Earth Station

March 9th

Expt. # 117
Remarks

Time	Temp	Vol	Temp	Total	hrs.	Remarks
10 AM	1210	130	8	26		Working normal
12	1213	130	8	75	10	# 5269 B-1
1 PM	1218	130	8	75	85	1 1/2
2	1224	130	8	75	160	2 1/2
3	"	"	"	75	235	3 1/2
4	"	"	"	"	310	4 1/2
5	"	"	"	"	385	5 1/2
6	"	"	"	"	460	6 1/2
7	"	"	"	"	535	7 1/2
8	"	"	"	"	610	8 1/2
9	"	"	"	"	685	9 1/2
10	"	"	"	"	760	10 1/2
10:30	"	"	"	"	835	11

18 Earth Station

March 9th

Eggs # 118

Time	Eggs	Inc.	Mat	Eggs	Total	Ths.	Working
9 PM 12:25	130	8	20	80	210	1 1/2	2 would
9:30	1225	130	8	80			# 4336 C-1
10:30	"	"	"	"	80	1 1/2	
11:30	"	"	"	"	110	2 1/2	
12:30	"	"	"	"	160	3 1/2	
1 PM	"	"	"	"	210	4 1/2	
2:30	"	"	"	"	260	5 1/2	
3:30	"	"	"	"	310	6 1/2	
4:30	"	"	"	"	360	7 1/2	
5:30	"	"	"	"	410	8 1/2	
6:30	"	"	"	"	460	9 1/2	
7:30	"	"	"	40	500	10 1/2	
8:30	"	"	"	40	540	11 1/2	
9:30	"	"	"	75	615	12 1/2	
10:30	"	"	"	"	690	13 1/2	
11:30	"	"	"	"	765	14 1/2	
12:30	"	"	"	"	840	15 1/2	

19th Easter
Supplement

March 9

Eggs # 119

Time	Eggs	Inc.	Mat	Eggs	Total	Ths.	Working
9 PM 12:25	130	8	20	80	210	1 1/2	2 would
9:30	"	"	"	"	50	1 1/2	# 3995 A-1
10:30	"	"	"	"	60	1 1/2	
11:30	"	"	"	"	110	2 1/2	
12:30	"	"	"	"	160	3 1/2	
1 PM	"	"	"	"	210	4 1/2	
2:30	"	"	"	"	260	5 1/2	
3:30	"	"	"	"	310	6 1/2	
4:30	"	"	"	"	360	7 1/2	
5:30	"	"	"	"	410	8 1/2	
6:30	"	"	"	"	460	9 1/2	
7:30	"	"	"	"	510	10 1/2	
8:30	"	"	"	"	560	11 1/2	
9:30	"	"	"	"	610	12 1/2	
10:30	"	"	"	"	75	13 1/2	
11:30	"	"	"	"	760	14 1/2	

2nd Easter
Supplement

A

C

Mar. 11, 21:

Expt. #12

Time	Sp. g.	Temp.	Wet	dry	Wet	dry	Remarks
11	125	134	8	50	130		Marking mould
12	"	"	"	50	180		#7049 & 1
1	"	"	"	50	220	2	
2	"	"	"	50	280	3	Had 130 amper
3	"	"	"	50	320	4	slow plate
4	"	"	"	50	380	5	
5	"	"	"	50	430	6	
6	"	"	"	50	480	7	
7	"	"	"	50	530	8	
8	"	"	"	70	580	9	
9	"	"	"	75	650	10	
10	"	"	"	75	725	11	
11	"	"	"	75	800	12	

23rd Easter
Section

Mar. 11, 21

Expt. #23

Time	Sp. g.	Temp.	Wet	dry	Wet	dry	Remarks
11	125	130	9	75	200		Marking mould
12	"	"	"	75	275	1	#773 & A 2
1	"	"	"	75	350	2	
2	"	"	"	75	425	3	Had 200 amper
3	"	"	"	75	500	4	slow plating,
4	"	"	"	75	575	5	then backed
5	"	"	"	75	650	6	up fast plate
6	"	"	"	75	725	7	to 800 amper
7	"	"	"	75	800	8	total
8	"	"	"	75	875	9	cut

24th Easter
Section

Mar. 11, 21

Expt. # 12

Inn.	Sp. gr.	Temp	Vol.	Amps	Total	Res.	Remarks
11	125	130	9	75	235		Remains
12				75	310	1	Master female
1				75	385	2	#7749 B
2				75	460	3	Had 235 Amps
3				75	535	4	slow plate to
4				75	610	5	locked up to
5				75	685	6	797 total Amp
6				75	760	7	
6:30				37	79.7	7 1/2	Out

25th Easter
Selection

March 12, 21

Expt. # 125

Inn.	Sp. gr.	Temp	Vol.	Amps	Total	Res.	Remarks
11	124	132	10	65	65		Marking Mould
12	"	"	"	60	125	1	#773 & C1
1	"	"	"	60	185	2	
2	1222	130	8	60	245	3	Had 65 Amps
3	1226	"	"	75	320	4	slow plate to
4	1230	"	"	75	395	5	then backward
5	1229	"	8 1/2	75	470	6	to 8.07 feet
6	1230	"	9	75	545	7	plate.
7	1232	"	10	75	620	8	
8	1229	"	10 1/2	75	695	9	
9				75	770	10	
10				37	807	11	Out

26th Easter
Selection

March 12, 21 Eyper 126

Time	Sp. gr.	Temp.	Volt	Amps	Watts	Hours	Remarks
6 PM	1224	132	10	60	225		Working on old
7	"	"	"	60	285	1	#3995 #1
8	"	"	"	60	345	2	
9	1222	130	8	60	405	3	Had 225 Amps
10	1226	"	"	60	465	4	slow plating
11	1230	"	"	60	525	5	then backed up
12	1229	"	8 1/2	60	585	6	8.25 Amps
1	1230	"	9	60	645	7	
2	1232	"	10	60	705	8	
3	1234	"	10 1/2	60	765	9	
4				60	825	10	Out

27th Easter
Celebration

March 12

Epper #127

Time	Sp. gr.	Temp.	Volt	Amps	Watts	Hours	Remarks
11:45 AM	1230	135	9	60	90		Working on old
12:15	1232	132	10	60	170	1	#7734 C-2
1:15	1230	130	"	70	250	2	Had 90 Amps
2:15	"	"	"	65	320	3	slow plating
3:15	"	"	"	65	385	4	then backed up
4:15	"	"	"	65	450	5	with 698 far
5:15	"	"	"	60	510	6	plating
6:15	"	"	"	60	570	7	
7:15	"	"	"	60	630	8	
8:15	"	"	"	60	690	9	
9:15	"	"	"	60	750	10	
10:15	"	"	"	30	780	10 1/2	Out

28th Easter
Celebration

March 12

Experi. # 120

March 14th

Reservoir 13 hrs.

Experi. # 129

Time	Sp. gr.	Temp.	Wet	Wgt.	Total	Wt.	Remarks
4:45 AM	1235	135	9	75	175		Making working mould
5:45	1232	133	10	75	250	1	# 4336C-1
6:45	1228	130	"	60	325	2	Had 175 sample
7:45	-	-	-	60	385	3	slow plating
8:45	1235	132	10	60	445	4	Backed up
9:45	1225	130	"	60	505	5	with 625
10:45				75	580	6	plating
11:45				75	650	7	
12:45				75	715	8	
2:45				75	790	9	Out

29th mould

Time	Sp. gr.	Temp.	Wet	Wgt.	Total	Wt.	Remarks
2:50	1223	130	7	75	110		Making
1:50	1230	"	7 1/2	75	185	1	working mould
2	1235	"	7	75	260	2	Had 160 sample
3	"	"	"	75	335	3	slow plating
4	1223	"	"	75	410	4	Then backed
5	"	"	"	75	485	5	up with 700
6	"	"	"	75	560	6	fast plating
7	"	"	"	75	635	7	# 4336 B-9
8	"	"	"	75	710	8	
9	"	"	"	75	785	9	
9:30				860			Out

30th mould

Two and 13 hrs.
March 14th

Expt # 13

Two and 13 hrs.
March 15th

Expt # 13

Time	Exp.	Temp.	Volt	amps	Total Hrs.	Remarks.
12	1230	130	7	75	300	Marking
1 PM	1230	"	7½	75	375	1 counter pen
2	"	"	7	75	450	2 Had 3000 avg.
3	"	214	7	75	525	3 slow plating
4	1233	"	"	75	600	4 Then looked up
5	"	"	"	75	675	5 with 500 avg.
6	"	"	"	75	750	6 fast plating
6:30	1	"	"	75	825	# 7747-A

Cut

31st mould

Time	Exp.	Temp.	Volt	amps	Total Hrs.	Remarks.
12	1230	130	7½	75	100	Marking work
1 PM	1232	"	"	75	175	1 mould
2	1234	"	"	75	250	2 # 7747B-1
3	1232	"	"	75	325	3 Had 1000 avg.
4	1230	"	"	75	400	4 slow plating
5	"	"	"	75	475	5 Then 7000
6	"	"	"	75	550	6 fast plating
7	"	"	"	75	625	7
8	"	"	"	75	700	8
9	"	"	"	75	775	9
10	"	"	"	75	850	10 Cut

32nd mould

no acid for 5 hrs.

March 15th

Exp. # 132

Time	Sp. Vol	Temp.	Pot	Amp.	Total Hrs	Remarks
10:30 AM	125	150	75	195	120	Working with sword
11:30	1232	"	"	75	195	1 sword
12:30	1234	"	"	75	270	2 # 6250 F-1
1:30	1232	"	"	75	345	3 Hard 120 amp
2:30	1230	"	"	75	420	4 plating
3:30	"	"	"	75	495	5 Then 600 ft
4:30	"	"	"	75	570	6 plating
5:30	"	"	"	75	645	7
6:30	"	"	"	75	720	8
7:30	"	"	"	75	795	9
8:15	"	"	"	54	849	9 3/4 Cut

33rd mould

March 16, 21.

Exp. # 133

Sp. Vol	Temp.	Pot	Amp	Total Hrs
125	132	8	65	1
"	"	"	65	1
"	"	"	130	2
"	"	"	195	3
"	"	"	260	4
"	"	"	325	5
"	"	"	390	6
"	"	"	465	7
"	"	"	530	8
"	"	"	585	9
"	"	"	650	10
"	"	"	75	11
"	"	"	75	12

Remarks
Working mould
reg. in plate + 1 hr
at low amps.
backed up with
787
#6371 B1 mould

34th mould

cut

March 16, 21

Expt # 134

Time	Exp. No.	Temp.	Vol. Amp.	Vol. Hrs.	Remarks
10:30	1221	130	75	5	Working mould
11:30	1230	"	75	80	#4002 F3
12:30	"	"	75	155	Flash copper reg.
1:30	"	"	75	230	and back up
2:30	"	"	75	305	792 Amps. put
3:30	"	"	75	380	plating.
4:30	"	"	75	455	
5:30	"	"	75	535	
6:30	"	"	75	610	
7:30	"	"	75	685	
8:30	"	"	75	760	
9:00 AM	"	"	37	771	10% Cut

35th mould.

March 16, 21

Expt # 135

Time	Exp. No.	Temp.	Vol. Amp.	Vol. Hrs.	Remarks
10:30	1230	130	75	5	Working mould
11:30	"	"	75	80	#4002-B1
12:30	"	"	75	155	Flash copper reg.
1:30	"	"	75	230	bath then bath
2:30	"	"	75	305	up fast plating
3:30	"	"	75	380	with 792 amp.
4:30	"	"	75	455	
5:30	"	"	75	530	
6:30	"	"	75	605	
7:30	"	"	75	680	
8:30	"	"	75	755	cut
9:00	"	"	75	830	

36th mould.

March 16th

Expn. # 136

Time	Expn.	Temp.	Wet	Wet	Temp.	Wet
8:30 PM	135	130	7½			
9:00	"	"	"	10	10	½
10				50	60	1½
11				50	110	2½
12				50	160	3½
1 AM				50	210	4½
2				50	260	5½
3				50	310	6½
4				50	360	7½
5				50	410	8½
6				50	460	9½
7				50	510	10½
8				50	560	11½
8:30				25	575	12
9:30				75	660	
10:30				75	735	
11:30				75	810	

Remarks.
Specimen for
Keweenaw, slow
plating in
residual, then
backed up with
Copper fast
plating.

C.T.

37th mouldMarch 16th

Expn. # 137

Time	Expn.	Temp.	Wet	Wet	Temp.	Wet
8:15 PM	130	130	7½			
1:15				50	55	1
2:15				50	110	2
3:15				50	160	3
4:15				50	210	4
5:15				50	260	5
6:15				50	310	6
7:15				50	360	7
8:15				50	410	8
9:15				50	460	9
10:15				50	510	10
11:15				75	585	
12:15				75	660	
1:15				75	735	
2:15				75	810	

Remarks.
Working
working mould of
3813 C-1
Hot copper
flash, then
backed up
with fast
plating.

Out

38th mould

March 17, 21.				Expt # 138
Time	Temp	Volt	Amps	Remarks
11:40	123.0	13.8	9	Working Mould
1		7.5	5	# 4326 C2
2		7.5	8.0	flash appears
3		7.5	15.5	flash in reg. bath
4		7.5	29.0	then back up
5		7.5	30.5	with 75 amp
6		7.5	38.0	fast plating
7		7.5	45.5	
8		7.5	54.0	
9		7.5	60.5	
10		7.5	68.0	
11		7.5	76.5	Out.

39th mould

March 17, 21.				Expt # 139
Time	Temp	Volt	Amps	Remarks
12:30	13.0	9	7.5	Working Mould
1		7.5	8.0	# 6250 F4
2		7.5	15.5	flash appears
3		2.50	3	at 5 amp in reg.
4		3.05	4	bath, then backed
5		3.80	5	up with 750 amps
6		4.55	6	fast plating
7		5.30	7	
8		6.05	8	
9		6.80	9	
10		7.55	10	Out

40th mould

March 18, 21

Experiment 140

March 18, 21

Experiment 141

Time	Sp. Amp	Temp	Volt	Amps	Total	Time
9:30	12.35	13.0	7.5	50	5	
10:30			50	55	1	
11:30			50	105	2	
12:30			50	155	3	
1:30			50	205	4	
2:30			50	255	5	
3:30			50	305	6	
4:30			50	355	7	
5:30			50	405	8	
6:30			50	455	9	
7:30			50	505	10	
8:30					11	
9:30					12	

Remarks:
Working Female
77467 H.
1 hr at 50 mps, slow
copper plate, etc.
back up with 7
amps first plating

4th at Monday

Time	Sp. Amp	Temp	Volt	Amps	Total	Time
0	12.35	13.0	7.5	50	175	
1			50	225	1	
2			50	275	2	
3			50	325	3	
4			50	375	4	
5			50	425	5	
6			50	475	6	
7			50	525	7	
8			50	575	8	
9			50	625	9	
10			50	675	10	
11				750	11	
12			37	785	12	

Remarks:
Working Monday
6252 F4
Had 175 amps
slow plating
then back kept to
total 787 amperes
plating.

Out -

4^{2nd} at Monday

Main 1866

Expen. # 14

Time	App.	Temp	Wet	Comp.	Test	Hum.	Remarks
4:30	230	130	9	5	5		Working
5:30	"	"	"	75	80	1	Working (normal)
6:30	"	"	"	75	105	2	# 4002 B-1
7:30	"	"	"	75	200	3	Out at 9:15 PM
8:30	"	"	"	75	305	4	
9:15	"	"	"	55	300	4 1/2	
10:15							
2 PM				75	425		
3 PM				75	510		
4 PM				75	585		
5 PM				75	660		
6				75	725		
7				75	810		

4319

Main 1866

Expen. # 143

Time	App.	Temp	Wet	Comp.	Test	Hum.	Remarks
11:30	1130	130	9	5	5		Working
12:30	"	"	"	75	50	1	recoiled
1:30	"	"	"	75	105	2	# 4002 A-3
2:30	"	"	"	75	220	3	Out at 9:15 PM
3:30	"	"	"	75	305	4	
4:15	"	"	"	55	300	4 1/2	
10:15							
2 PM	1225	130	9	75	425	7 1/2	
3 PM				75	520		
4				75	585		
5				75	650		
6				75	725		
7				75	800		

21419

March 18th Expt. # 145

Time	Sp. gr.	Temp.	Vol.	Ang.	Dist	Hm.	Remarks
10:15	1330	130	9	50	5	1	Mapping under
11:15				50	55	1	models
12:15				50	105	2	#3995 A1
1:15				50	155	3	
2:15				50	205	4	
3:15				50	255	5	
4:15				50	305	6	
5:15				50	355	7	
6:15				50	405	8	
7:15				50	455	9	
8:15				50	505	10	
9:30				75	520	11	
10:30				75	595	12	
11:30				75	670	13	
11:30				75	745	14	

2456

March 18th Expt. # 145

Time	Sp. gr.	Temp.	Vol.	Ang.	Dist	Hm.	Remarks
10:15	1330	130	9	50	60	1	Mapping under
11:15				50	110	1	fence
12:15				50	160	2	#4002 B
1:15				50	210	3	Head 4 hrs. in
2:15				50	260	4	slow copper
3:15				50	310	5	
4:15				50	360	6	
5:15				50	410	7	
6:15				50	460	8	
7:15				50	510	9	
8:15				50	560	10	
9:30				75	575	11	
10:30				75	650	12	
11:30				75	725	13	
11:30				100	3762		Out

246 LA

Mar. 2nd

Expt. #1

Mar. 2nd

Expt. #147

Time	Temp.	Temp.	Volt	Temp.	Total	Hz.	Remarks
11 AM.	125	130	8		5		#4336B-1
12	"	"	"	75	80	1	charging work
1 PM	"	"	"	75	155	2	recoiled
2	"	"	"	75	220	3	
3	"	"	"	75	305	4	
4	"	"	"	75	390	5	
5	"	"	"	75	475	6	
6	"	"	"	75	530	7	
7	"	"	"	75	605	8	
8	"	"	"	75	690	9	
9	"	"	"	75	755	10	Out

475

Time	Temp.	Temp.	Volt	Temp.	Total	Hz.	Remarks
11 AM.	125	135	6		265		#7734C4
12	"	"	"	50	335	1	charging
1 PM	"	"	"	50	385	2	working normal
2	"	"	"	50	435	3	Hard 265
3	"	"	"	50	485	4	rough slow
4	"	"	"	50	535	5	plating
5	"	"	"	50	585	6	
6	"	"	"	50	635	7	
7	"	"	"	50	685	8	
8	"	"	"	50	735	9	
9	"	"	"	50	785	10	Out
10	"	"	"	37	822	"	

268 15

Mar. 21st

Exp. # 148

Mar. 22

Exp. # 149

Time	Temp	Volts	Temp	Volts	Remarks
9:45	1227	130	6	285	# 3813 C-
10:45			50	385	1 making
11:45			50	385	2 working
12:45			50	485	3 Had 285
1:45			50	415	4 slow plate
2:45			50	535	5
3:45			50	585	6
4:45			50	625	7
5:45			50	665	8
6:45			50	725	9
7:45			50	765	10
8:30			57	822	11 Out

499

Time	Temp	Volts	Temp	Volts	Remarks
9:45	1240	130	6 1/2	140	# 38983
10:30	"	"	"	75	215 1 making
12:30	"	"	"	75	290 2 would
"	"	"	"	75	365 3 Had 140
"	"	"	"	75	440 4 slow plate
"	"	"	"	75	515 5
"	"	"	"	75	590 6
"	"	"	"	75	665 7
"	"	"	"	75	740 8
"	"	"	"	75	785 9 Out

504

Mar. 22

Exp. # 150

Time AM	g.g.	Imp.	Net	Aug	Total	Hrs.	Remarks
10	1240	130	64		140		# 6252C-4
11	1235	"	"	25	285	1	making work
12	1230	"	"	25	290	2	working
1	"	"	"	25	365	3	140 Aug. slow
2	"	"	"	25	440	4	plate
3	"	"	"	25	515	5	
4	"	"	"	25	590	6	
5	"	"	"	25	665	7	
6	"	"	"	25	740	8	
7	"	"	"	25	795	9	Out

5120

Mar. 22

Exp. # 151

Time AM	g.g.	Imp.	Net	Aug	Total	Hrs.	Remarks
10	1230	130	8		240		# 6250 F1
11	1230	"	"	40	280	1	making
12	1230	"	"	40	320	2	working
1	1230	"	"	40	360	3	140 Aug. slow
2	1230	"	"	40	400	4	plate
3	1230	"	"	40	440	5	
4	1230	"	"	40	480	6	
5	1230	"	"	40	520	7	
6	1230	"	"	40	560	8	
7	1230	"	"	40	600	9	
8	1230	"	"	40	640	10	
9	1230	"	"	40	680	11	
10	1230	"	"	40	720	12	
11	1230	"	"	40	760	13	
12	1230	"	"	40	800	14	Out

5220

Mar. 22

Exp. # 152

Mar 23

Exp. # 153

Time	Spd	Temp	Alt	Wind	Remarks
7:30 AM	130	8	240		# 7784 A4
8:30	"	"	40	280	making writing
9:30	"	"	40	320	improved, 1st
10:30	"	"	40	360	240 wings, slow
11:30	"	"	"	400	plate
12:30	"	"	"	440	
1:30	"	"	"	480	
2:30	"	"	"	520	
3:30	"	"	"	560	
4:30	"	"	"	600	
5:30	"	"	"	640	
6:30	"	"	"	680	
7:30	"	"	"	720	
8:30	"	"	"	760	
9:30	"	"	"	800	

Remarks.
7784 A4
making writing
improved, 1st
240 wings, slow
plate

Out

53

Time	Spd	Temp	Alt	Wind	Remarks
7:30 AM	130	8	240		# 7784 A4
8:30	"	"	40	280	making writing
9:30	"	"	40	320	improved, 1st
10:30	"	"	40	360	240 wings, slow
11:30	"	"	"	400	plate
12:30	"	"	"	440	
1:30	"	"	"	480	
2:30	"	"	"	520	
3:30	"	"	"	560	
4:30	"	"	"	600	
5:30	"	"	"	640	
6:30	"	"	"	680	
7:30	"	"	"	720	
8:30	"	"	"	760	
9:30	"	"	"	800	

Remarks.
7784 A4
making writing
improved, 1st
240 wings, slow
plate

Out

54

Mar 23

Exp. # 15

Mar. 23 -

Exp. # 155

Time	Sp. #	Temp	Wet	Wgt	Int	Pro	Remarks	Time	Sp. #	Temp	Wet	Wgt	Int	Pro	Remarks
10:30	240	130	9		180		# 7735A	10:30	130	130	8		270		# 7794B1
11:30	"	"	"	75	255	1	swallow work	11:30	"	"	"	40	310	1	making
12:30	"	"	"	75	330	2	work	11:30	"	"	"	40	350	2	working work
1:30	"	"	"	75	405	3	Hand 150	11:30	"	"	"	40	380	3	Anger sloughed
2:30	"	"	"	75	480	4		11:30	"	"	"	40	430	4	
3:30	"	"	"	75	555	5		11:30	"	"	"	40	490	5	
4:30	"	"	"	75	630	6		11:30	"	"	"	40	540	6	
5:30	"	"	"	75	705	7		11:30	"	"	"	40	580	7	
6:30	"	"	"	75	780	8		11:30	"	"	"	40	590	8	
7:00	"	"	"	38	815	8 1/2	Out	11:30	"	"	"	40	630	9	
								11:30	"	"	"	40	670	10	
								11:30	"	"	"	40	710	11	
								11:30	"	"	"	40	750	12	
								11:30	"	"	"	40	790	13	
								11:30	"	"	"	40	830	14	Out,

58 1/2

58 1/2

Mar. 23

Exp. # 150

Mar. 24

Exp. # 157

Time	Sp. g.	Temp.	Wet. Temp.	Total Wt.	Remarks
7:30	1250	130	8	280	# 625 A1
8:20				40 250 1	Walking
9:30				40 320 2	Walking 200
10:30				40 360 3	Had 200 ang.
11:30				40 400 4	slow plate
12:30				40 440 5	
1:30				40 480 6	
2:30				40 520 7	
3:30				40 560 8	
4:30				40 600 9	
5:30				40 640 10	
6:30				40 680 11	
7:30				40 720 12	
8:30				40 760 13	
9:30				40 800 14	

57.26

Dec

Time	Sp. g.	Temp.	Wet. Temp.	Total Wt.	Remarks
7:30	1240	127	5	100	# 625 A1
8:20				40 1080 1	Walking
9:30				40 1120 2	Walking
10:30				40 1160 3	Walking
11:30				40 1200 4	Walking
12:30				40 1240 5	Walking
1:30				40 1280 6	Walking
2:30				40 1320 7	Walking
3:30				40 1360 8	Walking
4:30				40 1400 9	Walking
5:30				40 1440 10	Walking
6:30				40 1480 11	Walking
7:30				40 1520 12	Walking
8:30				40 1560 13	Walking
9:30				40 1600 14	Walking

57.26

CHS

Mar. 29

Expt. # 160

Time AM	Sp. g.	Temp.	Wet	Aug.	Temp	Hum.	Remarks
12:30	1225	130	8		210		# 7683 C-1
1:30	"	"	"	75	260	1	working wood
2:30	"	"	"	75	360	2	removed. Hay
3:30				75	435	3	210 Aug. slow
4:30				75	510	4	plate. W. hum
5:30				75	585	5	taken from
6:30	1234	130	8	50	630	6	slow plate
7:30				50	680	7	should show
8:30				50	730	8	roughness on
							muscle area
							163

~~57~~
60.4

50
50

160
160

[ITEM(S) FOUND IN BOOK]

6-21-1921

Experiment 77 On back
Walter Archer

You better get a
good female that
has been pulled off
because it has made
working moulds
enough & plate a little
nickel over it in sequence
both say 8¹⁰ amp for
six hours then put
it in 7.5 amp bath
& plate neg truck
has of strip pad &
turned & test points
take to see if any
trouble arises

Σ

[ITEM(S) FOUND IN BOOK]

Expt #51⁵²
12/27/10.

284.70 grams B.V. per liter
27.71 c.c. H₂SO₄ " "

therefore add 703 B.V. +
106 c.c. H₂SO₄ to 10 gallons
to make it same as Dec. 21, 1910

F. H. Hellyer Jr

Mr. Archer - Expt #53 Dec. 28, 1910.

Analysis - 299.82 grams B.V. per liter
29.84 c.c. H₂SO₄ " "

∴ add 86 c.c. H₂SO₄ to make the sol.
300 grams B.V. + 32 c.c. H₂SO₄ per
liter - (10 gallons)

F. H. Hellyer Jr

[ITEM(S) FOUND IN BOOK]

Expt #54

Mr. Archer -

Dec. 29, 1920

Analysis -

27.12 c.c. H₂SO₄ per liter.
270.89 grams B.V. " "

1. add 196 c.c. H₂SO₄ +
2 lbs. 10 oz. B.V. to make
10 gallons have 300 grams B.V. + 32 c.c. H₂SO₄
per liter.
Note: + add the 196 c.c. H₂SO₄ on any B.V.

Expt #55

Mr. Archer

Dec. 30, 1920

Analysis -

23.60 c.c. H₂SO₄ per liter.
257.74 grams B.V. " "

Therefore add 3 lbs. 12 oz. B.V. +
336 c.c. H₂SO₄ to 10 gal.

Expt #55 to make 32 c.c. H₂SO₄ per liter.
Added half the quantity + 300 grams B.V. " "

250 g. B.V. 233
250 g. B.V. 233
250 g. B.V. 233

[ITEM(S) FOUND IN BOOK]

Mr. Archer

565.94

Analysis - 217.73 grams B.V. per liter
25.86 c.c. H₂SO₄

Therefore add 246 c.c. H₂SO₄ to
1 lb. 9 oz. B.V. to get
to make 3 c.c. H₂SO₄ 300 grams
B.V. per liter

1.375 lb. 2 lbs. 5 oz. B.V. } To dilute for 15 gallons
188 c.c. 369 c.c. acid.

257.73
172.77
6
1036.2
906.2
130
3960

16
1.00
1.28
32
448

6x174
6
368.4

[ITEM(S) FOUND IN BOOK]

Expts 58+59

Mr. Glicker - Jan. 3, 1921

Analysis: 24.50 c.c. H_2SO_4 for liter
29.22 gram B.V. " "

1. add 480 c.c. H_2SO_4 T

14.0g. B.V. to 20g. B.

to make 300 grams T 30 c.c.
per liter

Feitely J.

did not add any B.V. or H_2O
want solution to taper down till it
becomes poor plating

[ITEM(S) FOUND IN BOOK]

Expt # 60-61

4

\$19.00

Analysis: 295.88 grams B.V. for liter
24.85 c.c. H₂SO₄ " "

Check Test

\$13.00
\$4.00

F. H. H. H.

Expt # 60 + 61 Jan. 4, 20.

297.19 B.V. } quantity
24.26 c.c. H₂SO₄ } 12.19

add 379 c.c. water
V. L. B.V.

for 20 gal.
quantity 1210

Expt # 60 + 61

Did not add any B.V. or H₂SO₄

Want solution control test to see how
till it shows poor plotting

9.00

45 min. per shot

[ITEM(S) FOUND IN BOOK]

Mr. Archer June 6, 1921

Analysis = 282.73 grams B.V. per liter
13.48 c.c. H₂SO₄ " "

#62-63 Eggs

1,209 @ 70°F
1,195 @ 120°F

F. Little Jr.

1/7/21

Analysis = 260.26 grams B.V. per liter
19.36 c.c. H₂SO₄ " "

Grand 290 B.V. } F. Little Jr.
lost 24 H₂SO₄
add 297 H₂SO₄
" 48 + 9 B.V.

[ITEM(S) FOUND IN BOOK]

Expn #64

Mr. Archer -

June 8, 1921

Analysis - 263.00 grams B.V. per liter.
16.75 c.c. H₂SO₄ " "

J. Little J.

$$\begin{array}{r} 24 \\ 16.75 \\ \hline 7.25 \\ \hline 60 \end{array}$$

$$\begin{array}{r} 220 \\ 270 \\ \hline \end{array}$$

$$\begin{array}{r} 435.0000 \text{ grams (3)} \\ \hline 13.59 \\ \hline \end{array}$$

$$\begin{array}{r} 261 \times 16 \\ \hline 4176 \end{array}$$

$$\begin{array}{r} 1566 \\ 261 \\ \hline \end{array}$$

$$\begin{array}{r} 452 \overline{) 4176} 9 \\ \underline{4077} \\ 990 \end{array}$$

add 3 lb 903 B.V.
435 c.c. H₂SO₄

[ITEM(S) FOUND IN BOOK]

Expt # 65+66. Jan. 8, 20.
Cand. 286.67 grams B.V.
22.24 c.c. H₂SO₄
add 8.03 B.V. T.
720 c.c. H₂SO₄

[ITEM(S) FOUND IN BOOK]

Mr. Archer

1/10/21

24.56 B.V.

18.40 H₂SO₄

Check before
correcting for
#67 Expt

add 2 1/2 gallons water

524 c.c. H₂SO₄

23 acid

280 B.V.

148 c.c. more of acid for

25 acid

F. L. Litley Jr.

Expt #67

Mr. Archer 1/10/21

244.56 grams B.V.

21.14 c.c. H₂SO₄ per
liter

F. L. Litley Jr.

[ITEM(S) FOUND IN BOOK]

Con Jan 14

2 1/2 gallon water

524 cc H_2SO_4

23" Per liter

148 cc H_2SO_4 more to = 25 cc
H₂O
Per liter

Jan 11, 1921

Mr. Archer:-

Dear Sir

16 v. 85th grams B.V. F.

14.55 c.c. H_2SO_4 per
liter

add 18 lbs BV

" 497 cc H_2SO_4

added. O.K. 12/23/21

[ITEM(S) FOUND IN BOOK]

1/13/41
294.84 grams B.V. per liter
20.05 c.c. H_2SO_4 " "

add 200 c.c. H_2SO_4
to make 2500 H_2SO_4 per liter Expt. #71

Expt. #72

1/14/41

23.34 c.c. H_2SO_4
293.41 grams B.V.

add 80 c.c. H_2SO_4

F. Hitzler

Temp.	Gravimetric per degree	
0	12.5	14.3
10	14.2	17.4
20	17.2	20.7
25	18.5	22.7
30	20	25
40	22.5	28.5
50	25	33.3
60	28.5	40
80	35.5	55
100	43	75.4
120	44	78.6
140	44.5	80.2
160	44	78.6
180	43	75.4

Specific Gravity of concentrated H_2SO_4 at 20 in H_2O at 60
100 gms. H_2SO_4 solution in H_2O contains
20.32 gms. H_2SO_4 at 30
about 80 cc H_2O
Dry SO_4 Solubility

[ITEM(S) FOUND IN BOOK]

1/15/21

Anal = 19.50 c.c. H₂SO₄
265.70 grams B.V.

Walter the new steam coil is in ~~fact~~

add ~ lbs ~ oz B.V.
264 c.c. H₂SO₄

285 BV
25 cc H₂SO₄

Epper #73

Epper #74

1/17/21

242.27 grams B.V.

18.26 g c.c. H₂SO₄

add 3 lbs 4 oz.

296 c.c. acid

= figure 11: gallons

[ITEM(S) FOUND IN BOOK]

1/18/21.

287.43 grams B.V. per liter

24.44 c.c. H₂SO₄ " "

Expt # 75

January 19, 1921

29.22 c.c. H₂SO₄ per liter

278.84 grams B.V. " "

A. Ketchum Jr.

add ill. B.V.

Expt # 76

[ITEM(S) FOUND IN BOOK]

1/20/21

278.84 grams B.V. *for later*

22.79 c.c. H₂SO₄ " " "

add 11 oz B.V.

97 c.c. H₂SO₄

11 yellowish-brown *Frothing J.*

Expt #77

Expt #78.

1/21/21

23.34 c.c. H₂SO₄ *for later*

285.13 grams B.V.

add 66 c.c. Acid

225 B.V.

80° @ 1160

23 H₂SO₄

[ITEM(S) FOUND IN BOOK]

Mr Archer
Copper Solution

Jan 23, 21

H₂ SO₄ per Liter 14.11 cc or 25.89 grams

Cu SO₄ per Liter 289.29 grams

Rudford

1/24/21

289.50 grams B.V. per liter

12.49 c.c. H₂ SO₄

add 4.50 c.c. H₂ SO₄

Exp #79

[ITEM(S) FOUND IN BOOK]

1/26/21

279.89 grams B.V. for distn
18.67 c.c. H_2SO_4

Add 253 c.c. H_2SO_4

1203 B.V.

F. Kettley

1/28/21

297.76 B.V.
22.24 H_2SO_4

Expt # 80

Add 2 liters water

to 116 c.c. H_2SO_4

~~Amesbury~~

[ITEM(S) FOUND IN BOOK]

1/31/71

~~Experiment #80~~

18.12 c.c. H_2SO_4 per liter

304.94 grams B.V. " "

add 294 cc H_2SO_4 + 2 liter H_2O

2/1/71

Experiment #81

17.03 c.c. H_2SO_4 per liter

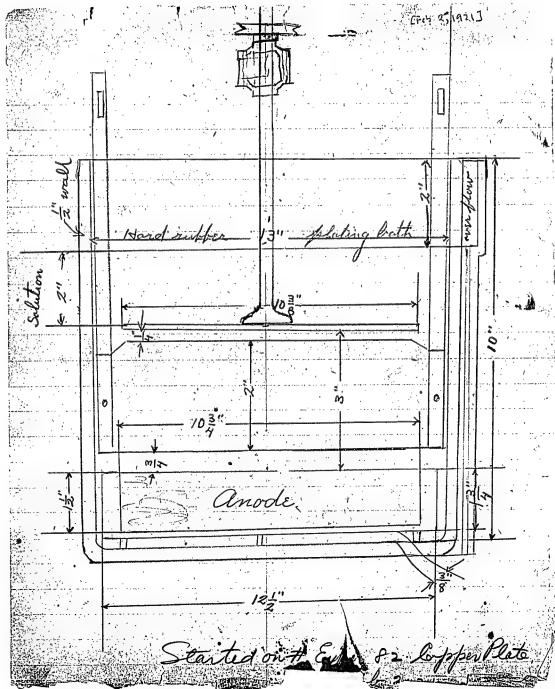
299.41 grams B.V. " "

add 336 c.c. H_2SO_4 +

2 liter water

F. Mettler Jr.

[ITEM(S) FOUND IN BOOK]



[ITEM(S) FOUND IN BOOK]

2/3/21 4/797
26.50 H.804
273.49 B.V.
add 1 lb. B.V.
Exp. #83.

[ITEM(S) FOUND IN BOOK]

2/4/71

38.58 c.c. H₂SO₄

263.02 grams B.V.

add 21.7 liter H₂O

15.5 lbs. B.V.

Expper #85

[ITEM(S) FOUND IN BOOK]

3/7/41-
 304.37 grams B.V. per liter
 24.58 c.c. H₂SO₄ "
 F. Settle Jr.
 Exper #86

157-158M-8-50

MEMORANDUM
 THOMAS A. EDISON INDUSTRIES

[Feb 9, 1921]

MR.

Mr. Archer
 Analysis of coffee sol.

DATE

AVOID VERBAL MESSAGES
 CONFIRM VERBAL UNDERSTANDINGS

204 per liter 12.35 cc
 Cu. Sol. " " 12.95 grams
 2.6 cc H₂SO₄
 Bedford 12 gr. Sol.
 Adiff. 347 cc H₂SO₄ the 12 gal. solution
 will make it 2.6 cc in liter.
 Exper #88
 3.5.118

[ITEM(S) FOUND IN BOOK]

2/10/21

21.01 c.c. H₂SO₄ for liter
298.86 grams B.V. " "

add 1945 c.c. water T
210 c.c. H₂SO₄

F. Hettler Jr.
f

Master female

Archer 2/10/21

290.04 grams B.V. for liter
22.65 c.c. H₂SO₄ " "

add 700 c.c. water
T 112 c.c. H₂SO₄

F. Hettler Jr.
Cypser #89

[ITEM(S) FOUND IN BOOK]

2/11/21

282.87 grams B.V. per liter

2279 cc. H₂SO₄ " "

add 88 c.c. H₂SO₄

F. Kettle Jr.

2/11/21

23.48 c.c. H₂SO₄ per liter

278.46 grams B.V. " "

add 707 B.V. 59

" 43 c.c. H₂SO₄ 0

59

59 51.8 F. Kettle Jr.

012 0.46

61 0.59

595

51

59 51.8

59 51.8

59 51.8

59 51.8

59 51.8

59 51.8

59 51.8

59 51.8

Exp #92

51.8 076

51.8 076

51.8 076

51.8 076

51.8 076

51.8 076

[ITEM(S) FOUND IN BOOK]

DET-1500-9-20

MEMORANDUM
THOMAS A. EDISON INDUSTRIES

Feb 15, 1921

MR.

Mr. Archer

DATE

AVOID VERBAL MESSAGES
CONFIRM VERBAL UNDERSTANDINGS

FUNCTION

acid constant 25.17 cc per liter
on 804 25.12 grams per liter

285
277
8
30
30 1/2
3.785 liters per gallon
16 gallons
11 37.85
8 gms
306800
Add 296 gms B.V. to make standard
Cope #104

DET-1500-9-20

MEMORANDUM
THOMAS A. EDISON INDUSTRIES

DATE

2-15-21

MR.

Archer

AVOID VERBAL MESSAGES
CONFIRM VERBAL UNDERSTANDINGS

FUNCTION

Copper Solution
acid 2.145
- on 804 278.34

Add 102 cc H₂O
9 g. on 804

Redford

Cope #104

[ITEM(S) FOUND IN BOOK]

ENT-150M-1-50

MEMORANDUM
THOMAS A. EDISON INDUSTRIES

C Feb 17, 1923

MR. Archers
Chas. J. ...
FUNCTION

DATE

AVOID VERBAL MESSAGES
CONFIRM VERBAL UNDERSTANDINGS

H-2 100 1.00 25.29 cc
C-2 80 1.00 24.5.84
Add 21.00 H-2 80
" 10.00 C-2 80
H-2 100
Ept 95

ENT-150M-1-50

MEMORANDUM
THOMAS A. EDISON INDUSTRIES

C Feb 18, 1923

MR. _____

DATE

AVOID VERBAL MESSAGES
CONFIRM VERBAL UNDERSTANDINGS

Reg. Paid 27.20 C-2 80 324.94
Special Paid 24.26 x C-2 80 300.9
Ept 96

[ITEM(S) FOUND IN BOOK]

12T-1204-1-40

MEMORANDUM
THOMAS A. EDISON INDUSTRIES

[Feb 21, 1921]

MR. *Archib*

DATE

AVOID VERBAL MESSAGES
CONFIRM VERBAL UNDERSTANDINGS

PURPORT

H₂ SO₄ 26.04 cc per liter

296.74 grams per liter

2. (K₂Cr₂O₇)

Chung

12T-1204-1-40

MEMORANDUM
THOMAS A. EDISON INDUSTRIES

DATE

2-23-21

MR. *Archib*

AVOID VERBAL MESSAGES
CONFIRM VERBAL UNDERSTANDINGS

PURPORT

Pu SO₄ 2.26.15 grams per liter

H₂ SO₄ 22.68

nickel solution acid 7.1 grams per liter

*1.8
80
20.8*

*3.8
80
20.8*

*2. Redford. 126
27.68
3.38*

3.8 to gullen.

Made 300 BV

27 cc H₂ SO₄ in pipe

*2.4
80
20.8*

[ITEM(S) FOUND IN BOOK]

837-100M-B-80

MEMORANDUM
THOMAS A. EDSON INDUSTRIES

DATE _____

MR. Proctor

AVOID VERBAL MESSAGES
CONFIRM VERBAL UNDERSTANDINGS

FUNCTION

Copper solution H_2SO_4 — 25.64 cc
Cu SO_4 — 294.25

Nickel sol. water acid 5.1 cc per liter
Add to copper solution 100 cc water
4 67 cc H_2SO_4

Add to Nickel solution 100 cc water
acid Rectford.

837-100M-B-80

MEMORANDUM
THOMAS A. EDSON INDUSTRIES

DATE _____

MR. Proctor

AVOID VERBAL MESSAGES
CONFIRM VERBAL UNDERSTANDINGS

Copper solution

Cu SO_4 — 305 grams per liter
 H_2SO_4 — 26.49 cc per liter

Add 3 gts water & 100 cc acid

Rectford.

[ITEM(S) FOUND IN BOOK]

887-120H-5-80

MEMORANDUM

THOMAS A. EDISON

DATE

BY

FOR

AVOID VERBAL MESSAGES

CONFIRM VERBAL UNDERSTANDINGS

Per Slog 275 H1 grams per liter
H2 Slog 22.44 cc per liter

546. grams coffee sufficient to make

173 cc. anhydrous oil

271 BV

27 H2 Slog

[ITEM(S) FOUND IN BOOK]

DET-100M-9-50

MEMORANDUM
THOMAS A. EDISON INDUSTRIES

DATE 3/1/21

MR.

Archur

AVOID VERBAL MESSAGES
CONFIRM VERBAL UNDERSTANDINGS

FUNCTION

Copper Solution

Cu SO₄ 29.78
H₂SO₄ " " 26.78

1 gal 1/2 liter water & 3 acid

Rudford

DET-100M-9-50

MEMORANDUM
THOMAS A. EDISON INDUSTRIES

DATE 3/2/21

MR.

Archur
Copper Analysis

AVOID VERBAL MESSAGES
CONFIRM VERBAL UNDERSTANDINGS

FUNCTION

Cu SO₄ - 286.59 grams / L
H₂SO₄ - 275.2 cc / L

Rudford

[ITEM(S) FOUND IN BOOK]

REF:180018-35

MEMORANDUM
THOMAS A. EDISON INDUSTRIES

MR.

Arthur

March 4, 21

AVOID VERBAL MESSAGES
CONFIRM VERBAL UNDERSTANDINGS

FUNCTION

*Gift 27.28
On 804 283.06*

Bedford

MEMORANDUM
THOMAS A. EDISON INDUSTRIES

AVOID VERBAL MESSAGES
CONFIRM VERBAL UNDERSTANDINGS

FUNCTION

*On 804 284.69 grams / 212.22
On 804
H2SO4 21 cc / 1
6 1/2 liters water — 221.8 grams
On 804*

Bedford

[ITEM(S) FOUND IN BOOK]

187-1804-8-80

MEMORANDUM
THOMAS A. EDISON INDUSTRIES

DATE Mar 9, 21

MR. _____

AVOID VERBAL MESSAGES
CONFIRM VERBAL UNDERSTANDINGS

FUNCTION

• H₂ SO₄ -- 28.58 cc per L
Cu SO₄ 29.54 grams per L.

Redford

187-1804-8-80

MEMORANDUM
THOMAS A. EDISON INDUSTRIES

DATE 3/10/21

MR. _____

Mr. Archer

AVOID VERBAL MESSAGES
CONFIRM VERBAL UNDERSTANDINGS

FUNCTION

Cu SO₄ per liter 290.79 grams
H₂ SO₄ per liter 28.34 cc

Redford.

[ITEM(S) FOUND IN BOOK]

887-1504-9-00

MEMO
THOMAS A. EDISON INDUSTRIES

DATE

March 11/21

MR.

Archer

AVOID VERBAL MESSAGES
CONFIRM VERBAL UNDERSTANDINGS

FUNCTION

Cu #1 Cu SO₄ per liter 335.10 grams
H₂SO₄ per liter ~~34.80 cc~~
34.80 cc

Cu Reg. Cu SO₄ per liter 296.64 grams
H₂SO₄ per liter 29.58 cc

290 AT 1200
27

327 AT 1230

32

[ITEM(S) FOUND IN BOOK]

257-1304-1-20

MEMORANDUM
THOMAS A. EDISON INDUSTRIES

March 14/21

RE: Amber

DATE

AVOID VERBAL MESSAGES
CONFIRM VERBAL UNDERSTANDINGS

POSITION

Cu SO₄ per liter 290.56 grams

H₂ SO₄ per liter 33.31 cc

Ridford

327

385

11	12-26	30g	25cc	1000cc	running at
12	12-29	30g	25cc	1000cc	60 amperes two blocks cut out of wire and 2500. 250 watts at 90 watts at 12 30
1 AM	12-30	30g	25cc	1000	
2	12-32	40g	25cc	1500	
3	12-29	40g	25cc	1000	
4	12-30	40g	30cc	1000	water
5	12-32	40g	30cc	1500	operating
6	12-34	40g	30cc	2500	depends
7	12-28	60g	45cc	2000	1000 absorbing radiation
8	12-30	41	210	12500	Did not have radiation much longer or during day.
12M	12-28	0	0	0	
1 PM	12-30	30g	0	0	
2	12-35	30g	0	2000cc	
3	"	0	0	0	
4	12-33	4	0	2000	

[ITEM(S) FOUND IN BOOK]

227-1200-9-20

MEMORANDUM
THOMAS A. EDISON INDUSTRIES

DATE 3-15-21

MR. Archib

AVOID VERBAL MESSAGES
CONFIRM VERBAL UNDERSTANDINGS

DIRECTIONS

No. 1	H ₂ SO ₄	per liter	38.28 cc
	Cu SO ₄	" "	339.51 grams
Reg.	H ₂ SO ₄	" "	85.74 cc
	Cu SO ₄	" "	339.51 grams

Redford.

227-1200-9-20

MEMORANDUM
THOMAS A. EDISON INDUSTRIES

DATE March 16/21

MR. Archib

AVOID VERBAL MESSAGES
CONFIRM VERBAL UNDERSTANDINGS

DIRECTIONS

No. 1	Cu SO ₄	per liter	334.53 grams
	H ₂ SO ₄	" "	31.44 cc

Redford

[ITEM(S) FOUND IN BOOK]

7-5-55

MEMORANDUM
THOMAS A. EDISON INDUSTRIES

DATE

5/17/24

AVOID VERBAL MESSAGES

CONFIRM VERBAL UNDERSTANDINGS

FUNCTION

Ha. 804
Cin. 804

37.40 cc per liter
335.10 grams per liter

Relford

[ITEM(S) FOUND IN BOOK]

35T-150M-9-80

THOMAS A. EDISON INDUSTRIES

MR.

Archer

DATE

3/18/21

AVOID VERBAL MESSAGES
CONFIRM VERBAL UNDERSTANDINGS

FORWREN

Cur S₀₄ per liter 341.52 grams

H₂ S₀₄ per liter 30.82 cc

Redford

35T-150M-9-80

MEMORANDUM

THOMAS A. EDISON INDUSTRIES

MR.

Archer

DATE

3/19/21

AVOID VERBAL MESSAGES
CONFIRM VERBAL UNDERSTANDINGS

FORWREN

H₂ S₀₄ / liter 29.32 cc

Cur S₀₄ / liter ~~235~~ 11 grams

334

Redford

[ITEM(S) FOUND IN BOOK]

anode chamber wt, 6 lbs
anode 8 1/2 lbs.

Shot 29 lbs with piston
piston weight 1 3/4 lbs.

29 1/2
1 3/4
31 1/4

5736
5882
45888
28680
393835 L

[ITEM(S) FOUND IN BOOK]

DET-100M-9-20

MEMORANDUM
THOMAS A. EDISON INDUSTRIES

DATE

3/21/21

AVOID VERBAL MESSAGES
CONFIRM VERBAL UNDERSTANDINGS

FUNCTION

H₂SO₄ - 1 liter
Cu SO₄ - 1 liter

29.48 cc.
336.26

Ridford

Mar 22

Cu SO₄ - 347.2 μL
H₂SO₄ - 29.6 μL

DET-100M-9-20

MEMORANDUM
THOMAS A. EDISON INDUSTRIES

DATE

3/24/21

AVOID VERBAL MESSAGES
CONFIRM VERBAL UNDERSTANDINGS

FUNCTION

not H₂SO₄ - 34.55 cc / liter
Cu SO₄ - 235.11 grams / liter

Reg. H₂SO₄ - 2854 cc per liter
Cu SO₄ - 279.26 grams / liter

Ridford.

[ITEM(S) FOUND IN BOOK]

#6 Cu Bath

13.744 Amp start

Ran to 600 Amps
1 hour

One nickel washed well.
rinsed with distilled water
Close switch before putting in then
put in & put belt on as quick as
possible -

#6 Bath Copper plate

Revolve 2 minutes in bath no current
Ran to 46 Amp hours, taken out and
washed well.

Rinsed with distilled water
Close switch before putting in then put in
and put belt on as quick as possible
Ran to 604 Amp. hours. 46 hours

about 13 Amp. per hour.

Remarks.

Rotator stuck and
did not go down
properly.

[ITEM(S) FOUND IN BOOK]

8 Bath, 1 min Electric Cleaner
2nd One clean it with Electric Cleaner - Wash well - rinse distilled water + put in the bath. Exactly the same as No 1.

8 Bath Copper plate.
Revolve 2 minute in bath, no current
Run to 84 Amps hours.
One minute Electric Cleaner, wash well - rinse distilled water.
Put in the bath with current on, and put belt on as soon as possible.
Run to 747 Amps hours in 46 hours
about 16 Amps Bath hours

Notebook Series -- Notebooks by Edison and Other Experimenters
Disc Plating Experiments
Notebook, N-20-06-09

This notebook was used during June-August and November-December 1920 by Edison, Walter N. Archer, Irving Adelson, Frank Detlef, Jr., Howard F. Redford, and possibly other experimenters. The entries pertain to the plating processes involved in the manufacture of disc records. The entries on the first page are by Edison, and there are occasional Edison notations on other early entries. The first part of the book contains tabular reports by Archer that provide a daily record of molds plated in "Bath 2" during June-July 1920. These tables are followed by records for Baths 1 and 2 for July-August. The second half of the book contains entries from November-December 1920 for experiments, numbered 1-50, that focus on improvements in the copper plating process, such as increasing the speed. These experiments are continued in N-20-06-08.2. Among the numerous items inserted into the book are instructions by Edison, notes exchanged between Edison and Archer, along with notes from Detlef and Adelson to Archer with results noted in the daily record. The front cover is labeled "2" and is marked "Disc Fast Plating #1 to #50 Exper Copper." The pages are unnumbered. Approximately 125 pages have been used.

No 2 Bulb



No. 2

First disc in

Time	Spec	Volt	Amp	Temp
3:00 PM	1170	9.5	21	80
4:00	1170	9.5	21 1/4	83
5:00	1170	9.5	22	83
6:00	1170	9.5	22	83
7:00	1170	9.5	22	81
8:00	1170	9.5	22 1/4	80
9:00	1170	9.5	22	80
10:00	1170	9.5	22	80
11:00	1170	9.5	22	82
12:00	1170	9.5	22	82
1:00	1170	9.5	22	82
2:00	1170	9.5	23	82
3:00	1170	9.5	23 1/4	82
4:00	1170	9.5	23	83

288%

	Specs	Volt	Amp	Temp	
					No 203 ^{oth}
					June 10
5.00	1170	9.5	22	83	
6.00	1170	9.5	22½	82	
7.00	1170	9.5	23	83	
8.00	1170	9.5	21½	83	
9.00	1170	9.5	23	83	
10.00	1170	9.5	22	80	
11.00	1175	9.5	22	81	
12.00	1175	9.5	22	82	
2.00	1175	9.5	21	82	+ 199
3.00	1175	9.5	22	82	
4.00	1175	9.5	21	80	
5.00	1175	9.5	21	80	
6.00	1175	9.5	21	81	
7.00	1175	9.5	22	80	
8.00	1175	9.5	22	80	
9.00	1175	9.5	22	80	
10.00	1170	9.5	22	80	
1.00	1170	9.5	22	80	31 st hr
12.00	1170	9.5	20	81	
1.00	1170	9.5	20	80	
2.00	1170	9.5	20	81	
3.00	1170	9.5	20	80	
4.00	1170	9.5	20	80	
5.00	1170	9.5	20	80	
6.00	1170	9.5	20	80	
7.00	1170	9.5	20	82	
8.00	1170	9.5	20	80	39

Mr Moore has this mould

No 2 First Disc
 { 862 amps in 40 hours
 out June 11th 8. am }

No 2 Bath First Disc in

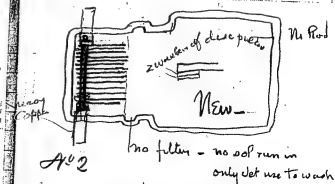
Spec	Volt	Amps	Temp
8.00	1170	9.5	70
OUT			1170

AM

put

June 11th

Grid broken



Time	SG	Volt	Amp	Temp	Remarks
12:30	1170	9.5	23	83	
1:30	1170	9.5	23	88	
2:30	1170	9.5	27	83	
3:30	1170	9.5	27	80	
4:30	1170	9.5	27	83	
5:30	1170	9.5	27	83	
6:30	1170	9.5	27	83	
7:30	1170	9.5	27	83	
8:30	1170	9.5	27	83	
9:30	1170	9.5	27	83	
10:30	1170	9.5	27	82	
11:30	1170	9.5	27	80	
12:30	1170	9.5	26	80	
June 12	AM				
1:30	1170	9.5	26	80	
2:30	1170	9.5	27	80	
3:30	1170	9.5	27	82	

Apr 2

Bath No 2

Time	SG	Volt	Amp	Temp
1:30	1170	9.5	27	82
2:30	1170	9.5	27	80
3:30	1170	9.5	26	82
4:30	1170	9.5	27	82
5:30	1170	9.5	26 1/2	82
6:30	1170	9.5	26	83
7:30	1170	9.5	26	82
8:30	1170	9.5	25	83
9:30	1170	9.5	25	83
10:00	1170	9.5	24	83
11:00	1170	9.5	24	83
12:00	1170	9.5	24	82
1:00	1170	9.5	24	80
2:00	1170	9.5	24	82
3:00	1170	9.5	24	83
4:00	1170	9.5	23	83
5:30	1170	9.5	12	83

21 Blasting

736

Out

No 2 First Lisc

868 Amp in 33 1/2 hrs
at 26 Amp/hr

Out June 12 - 8:30 PM

12 Pm		B2		2 dice same mode	
		Spec.	Vol. ant.	Temp.	Temp.
11.00	1170	9-5	22	81	
12.00	1170	9-5	22	80	22
1.00	1170	9-5	23	84	45
2.00	1170	9-5	24	84	69
3.00	1170	9-5	24	82	93
4.00	1170	9-5	24	82	117
5.00	1170	9-5	24	82	141
6.00	1170	9-5	24	82	166
7.00	1170	9-5	25	81	191
8.00	1170	9-5	24	84	215
9.00	1170	9-5	23	82	238
10.00	1170	9-5	23	82	261
11.00	1170	9-5	23	82	284
12.00	1170	9-5	23	81	307
1.00	1170	9-5	23	81	330
2.00	1175	9-5	23	81	353
3.00	1175	9-5	23	82	376
4.00	1175	9-5	22	82	398
5.00	1175	9-5	22	82	420
6.00	1175	9-5	22	82	442
7.00	1175	9-5	22	82	464
8.00	1175	9-5	22	83	486
9.00	1175	9-5	22	83	508
10.00	1175	9-5	22	80	530
11.00	1175	9-5	22	80	552
12.00	1170	9-5	23	80	575

June 14

Beth #2 2nd Disc.

M	Sp	Beth	Comp	Temp	Total Comp
0	1170	9.5	22	80	598
00	1170	9.5	22	81	610
00	1170	9.5	22	82	632
00	1170	9.5	22	80	654
00	1170	9.5	22	80	676
00	1170	9.5	22	82	698
00	1170	9.5	22	81	720
00	1175	9.5	22	80	742
0	1170	9.5	20	83	762
0	1170	9.5	22	83	784
0	1170	9.5	22	83	806
0	1170	9.5	22	83	828
0	1170	9.5	22	80	850
00	1175	9.5	22	80	872

Circle broken off 2:00 P.M.

M^c 2 Beth 2nd Disc Out8.72 Amp in 39 hours
at about 22 Amp

Out June 14 - 2:00 O'clock P.M.

big take.

about 1/2 eaten away
some of the nickel
is gone & some left.Then went away
King & Stronger would fully give
an idea of the Rod & back etc.

#2 Bath		#1 disc. Copper with Antic acid. Stopped Bath			
29.22 started		Special Cyan.			
Sp. Sol.	Volts	Amps.	Temp.	Time	Stopped Bath 70.6 not circulating
117.5	10	11	85		
117.5	10	11.5	85	11	
—	10	13	104	24	
—	10	13	112	37	
—	10	13	115	50	
—	10	14	116	64	
—	10	14	119	78	
—	10	14	121	92	
—	10	14	120	106	
—	14	12	120	120	
—	30				
—	10	14	119	121	
—	10	14	118	148	
—	10	14	128	162	
—	10	14	119	176	
—	10	14	119	190	
—	10	14	120	204	
—	10	14	120	218	
—	10	14	119	232	
—	10	14	120	246	acid added
—	10	14.5	122	260	
—	10	14.5	125	275	acid added
—	10	14.5	125	289	" "
—	10	14.5	126	303	added 300 cc fresh solution
—	10	14.5	126	318	

44.5) 629.2 (14.1
 44.5
 184.0
 178.0

Special Exper.

#2 Bath

Start June 29.20. - 3.30 PM.

Finish July 1.20. -

Total Amps 629

" hours 44.5

Average Amps 14.1

Stopped bath - not circulating
 Copper with Acetic Acid

#2 Bath

#1 disc Copper with Acetic acid - Stopped bath

Special Exper.

July 30.20. PM.

Time	Sp. Br.	Volts	Amps	Temp	Titl.	Solution not circulating
3 PM	-	10	14.5	126	332	
4	-	10	14.5	126	347	
5	-	10	15	127	362	added 300 cc dist. H ₂ O
6	-	10	15	127	377	
7	-	10	15	128	392	
8	-	10	14.5	124	406	
9	-	10	14.5	122	421	
10	-	10	14.5	122	435	
11	-	10	13.5	120	449	
12	-	10	13.5	120	462	
1 PM	-	10	13.5	117	476	
2	-	10	13	117	487	
3	-	10	13.5	118	502	
4	-	10	14	120	516	
5	-	10	14	120	530	
6	-	10	14	120	544	
7	-	10	14	120	558	
8	-	10	14	120	572	
9 AM	-	10	14	121	586	added 200 cc dist. H ₂ O
10	-	10	14	120	600	
11	-	10	14.5	123	615	added 200 cc H ₂ O dist.
12 PM	-	10	14.5	123	629	quit

Big Cu Strap Req- 1 strap Cu
 Particular Req Lusin & Earth

MS 2 Beth 1st Disc in

Day	Shr	Tella	Comp	Comp	Net
1165	9-5	16	80		
1165	9-5	16	80		16
1165	9-5	16	80		32
1165	9-5	16	80		48
1165	9-5	16	80		64
1165	9-5	17	83		83
1165	9-5	17	83		100
1165	9-5	17	83		117
1165	9-5	18	87		135
1165	9-5	18	84		153
1165	9-5	18-5	84		171
1165	9-5	18-5	84		190
1165	9-5	18	82		208
1165	9-5	18	82		226
1165	9-5	18	83		244
1165	9-5	17-5	84		261
1165	9-5	17-5	83		279
1165	9-5	17-5	83		296
1165	9-5	17-5	83		314
1165	9-5	17-5	82		331
1165	9-5	17-5	82		349
1165	9-5	17-5	80		366
1165	9-5	17	81		383
1165	9-5	17	81		400

not a nub on

509 off -

No 2 Bath 1st disc

Cleaned up .044

Outside Caliper = .053
Inside " = .062

45) $\frac{747}{270}$ (16.6)

Run Total to 750 Amps.

Both # 2 # 1 disc.

After cleaning tanks free from grease and oil.

Start July 3, 20. 11 P.M.

Finish " 5, 20.

Total Amps 747

" hours 45

Average Amp. 16.6

JULY	Sh	Bath	Amps	Temp	Total	
10:00	1165	9-5	17	81	417	not a note on
12:00	1165	9-5	16 1/2	81	434	
1:00	July 5					
2:00	1165	9-5	16 1/2	81	450	
3:00	1165	9-5	16 1/2	81	467	
4:00	1165	9-5	15	81	483	
5:00	1165	9-5	16	81	498	
6:00	1165	9-5	16	81	514	
7:00	1165	9-5	16	81	530	
8:00	1165	9-5	15 1/2	81	545	
9:00	1165	9-5	16	81	561	
10:00	1165	9-5	16	81	577	not a note on
11:00	1165	9-5	16	81	593	
12:00	1165	9-5	16	81	609	
1:00	1165	9-5	16 1/2	81	626	
2:00	1165	9-5	16	81	642	
3:00	1165	9-5	16	81	658	
4:00	1165	9-5	16 1/2	81	674	
5:00	1165	9-5	16 1/2	81	691	
6:00	1165	9-5	16 1/2	81	707	
7:00	1165	9-5	17	81	724	
8:00	1165	9-5	17	81	741	not a note on
9:00	1165	9-5	16	81	747	out

45 hrs

Mould on 2nd edge not
rounded off.

Disc. revolves 1 1/2 R.P.M.

$$\begin{array}{r} 205 \mid 326 \frac{2}{3} \\ \underline{205} \\ 121 \frac{2}{3} \\ \underline{121} \\ 1 \frac{2}{3} \end{array} \quad 15.9$$

#2 Bath #2 disc
Start July 6, 20. 2 P.M.
Finish " 7, 20. 11 P.M.
Total amp = 326
" hours = 20 1/2
Average Amp = 15.9

#2 Bath 2nd Disc

Time	Sh	Volts	Amps	Watts	Total
7:00	1165	9-5	14 1/2	73	
7:05	1165	9-5	15	80	15
7:10	1165	9-5	15	83	30
7:15	1165	9-5	16-5	83	46
7:20	1165	9-5	16-5	84	63
7:25	1165	9-5	17-5	84	80
7:30	1165	9-5	17-5	84	98
7:35	1165	9-5	17-5	84	115
7:40	1165	9-5	18	84	133
7:45	1165	9-5	16	84	149
7:50	1165	9-5	15	84	164
7:55	1165	9-5	15	84	179
8:00	1165	9-5	15	84	194
8:05	1165	9-5	15-5	84	210
8:10	1165	9-5	15-5	84	225
8:15	1165	9-5	15-5	84	241
8:20	1165	9-5	15-5	84	256
8:25	1165	9-5	15-5	84	272
8:30	1165	9-5	15	84	287
8:35	1165	9-5	16	85	303
8:40	1165	9-5	15-5	85	318
8:45	1165	9-5	15-5	83	326

Out.

20 1/2 hrs

Added 5 cc general bath dope
to plating solution 11:30 AM

#2 Bath

Start July 7, 20 11:30 AM

#3 disc

Time	Sp. Vol.	Voltage	Amp	Temp	Total
1:30 PM	116.5	9.5	14.5	82	
2:30 PM	116.5	9.5	14	82	14
3:30 PM	116.5	9.5	15	83	29
4:30 PM	116.5	9.5	15	83	44
5:30 PM	116.5	9.5	15	84	59
6:30 PM	116.5	9.5	15	85	74
7:30 PM	116.5	9.5	15	85	89
8:30 PM	116.5	9.5	15	84	104
9:30 PM	116.5	9.5	15	84	119
10:30 PM	116.5	9.5	15	83	134
11:30 PM	116.5	9.5	14.5	83	149
12:30 AM	116.5	9.5	15.5	82	165
1:30 AM	116.5	9.5	15	82	180
2:30 AM	116.5	9.5	15	82	195
3:30 AM	116.5	9.5	15	82	210
4:30 AM	116.5	9.5	15	82	225
5:30 AM	116.5	9.5	15	82	240
6:30 AM	116.5	9.5	15.5	82	255
7:30 AM	116.5	9.5	15.5	82	271
8:30 AM	116.5	9.5	15.5	82	286
9:30 AM	116.5	9.5	15.5	82	302
10:30 AM	116.5	9.5	15.5	82	317
11:30 AM	116.5	9.5	16	80	333
12:30 PM	116.5	9.5	16	80	349

$$\begin{array}{r}
 29 \overline{) 442.9} \quad 15.2 \\
 \underline{29} \\
 152 \\
 \underline{145} \\
 700
 \end{array}$$

#2 Bath

#2 disc.

Sp. No.	Volt	Amper	Time	Total
1165	9.5	16	82	365
1165	9.5	16	82	381
1165	9.5	16	80	397
1165	9.5	15	80	412
1165	9.5	15	80	427
1165	9.5	15	80	442

Cast

Test #1 Copper disc. 8-4
 then 80 Amp hours, then was
 and wheel dry & put in Cu
 bath for 600 Amp hours.
 Then give to Nicholson to try
 to peel off if possible.
 Revolved before in plate for 2 min.

9 | 89 | 9.7

#1 Bath Nickel plate #1 disc.
 2 P.M. on disc. Last anode
 Started July 7, 20 - 2:10 P.M.
 Finish " 7, 20 - 11:10 P.M.
 Total Amps = 89
 " hours = 9
 Average Amps = 9.7

#1 Bath		#1 disc. Nickel Plate			
Volts	Amps	Volts	Amps	Temp.	Total
12.80	9.5	8	80		
12.80	9.5	8.5	85	8	
12.80	9.5	8.5	90	17	
12.80	9.5	10	92	25	
12.80	9.5	10.5	92	37	
12.80	9.5	10.5	92	48	
12.80	9.5	10.5	100	58	
12.80	9.5	10.5	100	69	
12.80	9.5	10	100	79	
12.80	9.5	10.5	98	89	

Out
 transfer to #6
 tank Copper plate

R-4
 2 min in in no current to 40 amp
 mesh wash, then rinse with city
 water, then distilled water, and put
 in mesh dryer, then distilled water. 2 min
 in copper bath, no current, then
 run at 600 amperes.

#1 Bath in

Start July 7, 20.

Plate	Spent	Volts	Amp	Temp	Total
12 PM	1280	9.5	11	92	
4 M	July 8,	20.			
1 AM	1280	9.5	11	92	11
2 AM	1280	9.5	10	95	21
3 AM	1280	9.5	10	95	31
4 AM	1280	9.5	10	95	41
5 AM	1280	9.5	10	95	51
6 AM	1280	9.5	10	96	61
7 AM	1280	9.5	10	96	71
8 AM	1280	9.5	10	96	80
9 AM	1280	9.5	10	94	90
9:30	1280	9.5	10	94	95

#2 disc.
 Nickel plate
 East anode

No Skimmer in in
 Bath.

transfer to #4
 Copper plate
 bath.

Rotated 30 Min. with 55.00

Rubber cement from combination rubber & lead

Rotate at 26 R.P.M.

Test for knots, rubber varnish
Remarks: Copper cement floating through
stemmer to near to disc.
Run to 450 Amper then give to
Mr Edison to recast with rubber,
the knots on back of disc.

Added 10.00 gr. bath dye to
copper plate sol. at 11 AM July 9

#2 Bath

Test for knots
5-PM. Rubber varnish

July 8, 20	Started	5-PM	Rubber varnish						
Sign	Volts	Amper	Temp	Total					
1165	9.5	16	80	15					Remarks
1165	9.5	15.5	80	81					Test for knots
1165	9.5	15.5	80	46					on back of
1165	9.5	15.5	80	62					disc. 55.00
1165	9.5	15.5	80	77					rubber Ist #1
1165	9.5	15.5	80	93					
1165	9.5	15	80	108					
July 9									
1165	7.5	15	80	123					
1165	7.5	15	80	138					
1165	7.5	15	80	153					
1165	7.5	15	80	168					
1165	7.5	15	80	183					
1165	7.5	15.5	80	198					
1165	7.5	15.5	80	214					
1165	7.5	15	80	229					
1165	9.5	15.5	78	234					
1165	9.5	16.5	79	251					added anode strap
1170	9.5	17	80	268					
1165	9.5	18	80	286					
1165	9.5	18	82	304					
1165	9.5	18	81	322					
1165	9.5	18	81	340					
1165	9.5	18	80	358					

$$\begin{array}{r}
 42 \overline{) 7038} \quad 167 \\
 \underline{42} \\
 283 \\
 \underline{252} \\
 310 \\
 \underline{252} \\
 580
 \end{array}$$

#2 Bath

July 9, 20					4 th rise
Sp	Volts	Amps	Temp	Total	Remarks
5.4	116.5	9.5	17.5	80	375
6	116.5	9.5	17.5	80	393
7	116.5	9.5	17.5	80	410
8	116.5	9.5	18.5	80	429
9	116.5	9.5	19	80	448
10	116.5	9.5	19.5	80	467
11	116.5	9.5	19	80	486
12	116.5	9.5	19	80	505
July 10, 20					
1	116.5	9.5	19	80	524
2	116.5	9.5	19	80	543
3	116.5	9.5	19	80	562
4	116.5	9.5	19	80	581
5	116.5	9.5	19	80	600
6	116.5	9.5	19.5	80	620
7	116.5	9.5	19.5	80	639
8	116.5	9.5	19	80	658
9	116.5	9.5	19	80	677
10	116.5	9.5	18	80	685
11	116.5	9.5	18	80	703

4th rise
55cc Rubber

55cc Rubber

Cent
Not as good
as the 60 cc
rubber.

No 2 Bath Exp on large Disc
1st Dec

Time	Volts	Amp	Watt
11:55	9.5	14.5	80
12:00	9.5	14.5	80
12:05	9.5	15	80
12:10	9.5	16.5	80
12:15	9.5	17	80
12:20	9.5	16.5	80
12:25	9.5	16.5	80
12:30	9.5	16.5	80
12:35	9.5	16.5	80
12:40	9.5	16.5	80
12:45	9.5	16.5	80
12:50	9.5	16.5	80
12:55	9.5	16.5	80
13:00	9.5	16.5	80
13:05	9.5	16.5	80
13:10	9.5	16.5	80
13:15	9.5	16.5	80
13:20	9.5	16.5	80
13:25	9.5	16.5	80
13:30	9.5	16.5	80
13:35	9.5	16.5	80
13:40	9.5	16.5	80
13:45	9.5	16.5	80
13:50	9.5	16.5	80
13:55	9.5	16.5	80
14:00	9.5	16.5	80
14:05	9.5	16.5	80
14:10	9.5	16.5	80
14:15	9.5	16.5	80
14:20	9.5	16.5	80
14:25	9.5	16.5	80
14:30	9.5	16.5	80
14:35	9.5	16.5	80
14:40	9.5	16.5	80
14:45	9.5	16.5	80
14:50	9.5	16.5	80
14:55	9.5	16.5	80
15:00	9.5	16.5	80
15:05	9.5	16.5	80
15:10	9.5	16.5	80
15:15	9.5	16.5	80
15:20	9.5	16.5	80
15:25	9.5	16.5	80
15:30	9.5	16.5	80
15:35	9.5	16.5	80
15:40	9.5	16.5	80
15:45	9.5	16.5	80
15:50	9.5	16.5	80
15:55	9.5	16.5	80
16:00	9.5	16.5	80
16:05	9.5	16.5	80
16:10	9.5	16.5	80
16:15	9.5	16.5	80
16:20	9.5	16.5	80
16:25	9.5	16.5	80
16:30	9.5	16.5	80
16:35	9.5	16.5	80
16:40	9.5	16.5	80
16:45	9.5	16.5	80
16:50	9.5	16.5	80
16:55	9.5	16.5	80
17:00	9.5	16.5	80
17:05	9.5	16.5	80
17:10	9.5	16.5	80
17:15	9.5	16.5	80
17:20	9.5	16.5	80
17:25	9.5	16.5	80
17:30	9.5	16.5	80
17:35	9.5	16.5	80
17:40	9.5	16.5	80
17:45	9.5	16.5	80
17:50	9.5	16.5	80
17:55	9.5	16.5	80
18:00	9.5	16.5	80
18:05	9.5	16.5	80
18:10	9.5	16.5	80
18:15	9.5	16.5	80
18:20	9.5	16.5	80
18:25	9.5	16.5	80
18:30	9.5	16.5	80
18:35	9.5	16.5	80
18:40	9.5	16.5	80
18:45	9.5	16.5	80
18:50	9.5	16.5	80
18:55	9.5	16.5	80
19:00	9.5	16.5	80
19:05	9.5	16.5	80
19:10	9.5	16.5	80
19:15	9.5	16.5	80
19:20	9.5	16.5	80
19:25	9.5	16.5	80
19:30	9.5	16.5	80
19:35	9.5	16.5	80
19:40	9.5	16.5	80
19:45	9.5	16.5	80
19:50	9.5	16.5	80
19:55	9.5	16.5	80
20:00	9.5	16.5	80
20:05	9.5	16.5	80
20:10	9.5	16.5	80
20:15	9.5	16.5	80
20:20	9.5	16.5	80
20:25	9.5	16.5	80
20:30	9.5	16.5	80
20:35	9.5	16.5	80
20:40	9.5	16.5	80
20:45	9.5	16.5	80
20:50	9.5	16.5	80
20:55	9.5	16.5	80
21:00	9.5	16.5	80
21:05	9.5	16.5	80
21:10	9.5	16.5	80
21:15	9.5	16.5	80
21:20	9.5	16.5	80
21:25	9.5	16.5	80
21:30	9.5	16.5	80
21:35	9.5	16.5	80
21:40	9.5	16.5	80
21:45	9.5	16.5	80
21:50	9.5	16.5	80
21:55	9.5	16.5	80
22:00	9.5	16.5	80
22:05	9.5	16.5	80
22:10	9.5	16.5	80
22:15	9.5	16.5	80
22:20	9.5	16.5	80
22:25	9.5	16.5	80
22:30	9.5	16.5	80
22:35	9.5	16.5	80
22:40	9.5	16.5	80
22:45	9.5	16.5	80
22:50	9.5	16.5	80
22:55	9.5	16.5	80
23:00	9.5	16.5	80
23:05	9.5	16.5	80
23:10	9.5	16.5	80
23:15	9.5	16.5	80
23:20	9.5	16.5	80
23:25	9.5	16.5	80
23:30	9.5	16.5	80
23:35	9.5	16.5	80
23:40	9.5	16.5	80
23:45	9.5	16.5	80
23:50	9.5	16.5	80
23:55	9.5	16.5	80
24:00	9.5	16.5	80

1600 AM Rotameter scribble

$$\begin{array}{r}
 47 \overline{) 798} \quad (16.9 \\
 \underline{471} \\
 328 \\
 \underline{282} \\
 460 \\
 \underline{423}
 \end{array}$$

Large disc Expan.

Start July 10, 20 at 1 PM
 Finish " 12, " " 2."
 Total Amps = 798
 " hours = 47
 Average Amp. = 16.9

M:2 Bell Large disc

Sh	Volts	Amps	Watts	Int.
1165	9-5	17-5	80	405
1165	9-5	17-5	80	422
1165	9-5	17-5	80	439
1165	9-5	18	81	457
1165	9-5	18-5	81	475
1165	9-5	18-5	81	494
1165	9-5	18	81	511
1165	9-5	18	81	529
1165	9-5	17	81	546
1165	9-5	17	81	563
1165	9-5	16 1/2	81	579
1165	9-5	16 1/2	81	595
1165	9-5	16 1/2	81	612
1165	9-5	16 1/2	81	628
1165	9-5	16 1/2	81	645
1165	9-5	16 1/2	81	661
1165	9-5	17	81	678
1165	9-5	17	81	695
1165	9-5	17	82	712
1165	9-5	17	82	729
1165	9-5	17	82	746
1165	9-5	17	80	763
1165	9-5	17-5	80	780
1165	9-5	17-5	80	798

cont

1.60 Amps. Ni plated
 2 minutes no current on dry.
 Put in wet
 One minute at 2.3 Amps
 5th notch
 Then full current on

#2 Bath

Started July 13, 20. 5:30 P.M.

Spd	Volt	Amp	Temp	Total
5:30	11.65	9.5	16	84
6:30	11.65	9.5	16.5	80
7:30	11.65	9.5	16.5	80
8:30	11.65	9.5	16.5	80
9:30	11.65	9.5	17	81
10:30	11.65	9.5	16.5	83
11:30	11.65	9.5	16.5	83
12:30	11.65	9.5	16.5	83
July 13, 20				
1:30	11.65	9.5	17	81
2:30	11.65	9.5	17	81
3:30	11.65	9.5	17	81
4:30	11.65	9.5	17	81
5:30	11.65	9.5	17	81
6:30	11.65	9.5	17	81
7:30	11.65	9.5	17.5	82
8:30	11.65	9.5	17.5	82
9:30	11.65	9.5	18	82
10:30	11.65	9.5	17	82
11:30	11.65	9.5	17.5	83
12:30	11.65	9.5	18.5	83
1:30	11.65	9.5	18.5	85
2:30	11.65	9.5	18.5	85
3:30	11.65	9.5	17.5	85
4:30	11.65	9.5	18	85

$$\begin{array}{r}
 45 \overline{) 777} \quad (17.2 \\
 \underline{45} \times 8 \\
 327 \\
 \underline{315} \\
 120 \\
 90
 \end{array}$$

Start July 12 20-530 PM
 Finish " 14 " 230 PM
 Total camps 777
 " " hours 45
 Average camps 17.2

2 Bath

	Wells	Camp	Days	Total	355
1000	1165	9.5	18	80	403
1100	1165	9.5	18	80	421
1200	1165	9.5	18.5	80	440
1300	1165	9.5	18.5	85	458
1400	1165	9.5	18	84	474
1500	1165	9.5	17.5	83	491
1600	1165	9.5	17.5	83	509
1700	1165	9.5	17.5	83	536
1800	1165	9.5	17.5	83	554
1900	1165	9.5	17	83	571
2000	1165	9.5	17	83	588
2100	1165	9.5	17	83	605
2200	1165	9.5	17	83	622
2300	1165	9.5	17	84	637
2400	1165	9.5	17	84	652
2500	1165	9.5	16.5	83	667
2600	1175	9.5	17.5	80	690
2700	1165	9.5	17.5	80	707
2800	1165	9.5	17.5	80	725
2900	1165	9.5	17.5	80	742
3000	1165	9.5	17.5	80	760
3100	1165	9.5	17.5	80	777

Cost

Hi face disc.

20 pec. Electric Cleaner, wash in
whirlly running water, then rinse
distilled water.

20 pec. ins #4, then wash in
whirlly and rinse distilled
water, and dry on whirler.

Put in hi bath dry, reverse 20 min.

then full current.

Total amperes 48 mi plated.

(51)

Water drained off disc before
putting in opper bath.
Full current on.

#2 Bath

dated July 14 20.

@ 5:30 PM.

Time	Temp	Volts	Amps	Temp	Volts
30	116.5	9.5	16	85	
30	116.5	9.5	16	85	16
30	116.5	9.5	16	85	32
30	116.5	9.5	17 1/2	85	48
30	116.5	9.5	18	85	64
30	116.5	9.5	18	85	80
30	116.5	9.5	18	85	96
30	116.5	9.5	18	85	112
30	116.5	9.5	18	85	128
30	116.5	9.5	18	85	144
30	116.5	9.5	18	85	160
30	116.5	9.5	18	85	176
30	116.5	9.5	18	85	192
30	116.5	9.5	18	85	208
30	116.5	9.5	18	85	224
30	116.5	9.5	18	85	240
30	116.5	9.5	18	85	256
30	116.5	9.5	18	85	272
30	116.5	9.5	18	85	288
30	116.5	9.5	18	85	304
30	116.5	9.5	18	85	320
30	116.5	9.5	18	85	336
30	116.5	9.5	18	85	352
30	116.5	9.5	18	85	368
30	116.5	9.5	18	85	384
30	116.5	9.5	18	85	400
30	116.5	9.5	18	85	416
30	116.5	9.5	18	85	432

Transfer from
#2 Hi Bath
51 Amps
Plated

$$\begin{array}{r} 40 \times 760 \\ \hline 360 \end{array} \quad (19)$$

Total Amps = 760
 " hours = 40
 Average Amps = 19

#2 Bath

Sp. gr.	V. off	Amps	Temp	Total	4.13
1165	9.5	18	80	431	
1165	9.5	19	80	450	
1165	9.5	20	82	470	2.6
1165	9.5	20	82	490	
1165	9.5	21	93	511	
1165	9.5	22	92	533	
1165	9.5	22	92	555	
1165	9.5	22	90	574	
July 16 20.					
1165	9.5	20.5	90	597	
1165	9.5	20.5	90	618	
1165	9.5	20.5	92	638	
1165	9.5	20.5	92	658	
1165	9.5	20.5	90	677	
1165	9.5	20.5	90	697	
1165	9.5	20	90	716	
1170	9.5	20	87	760	Cont

John

after 30 min with current open
Percent for 20 min then

Put in dry, lower bath
full mercury etc

#2 Bath
started July 16 20- at 11 am

	Spd	Volt	Temp	Total
1	1165	9.5	18.5	91
2	1165	9.5	20.5	97
3	1165	9.5	21	89
4	1165	9.5	22	90
5	1165	9.5	22	94
6	1165	9.5	21	90
7	1165	9.5	20	90
8	1165	9.5	20	90
9	1165	9.5	20	88
10	1165	9.5	19.5	88
11	1165	9.5	20	88
12	1165	9.5	20	88
13	1165	9.5	20	89
14	1165	9.5	20	89
15	1165	9.5	17.20	90
16	1165	9.5	19	90
17	1165	9.5	22	90
18	1165	9.5	22	90
19	1165	9.5	21.5	90
20	1165	9.5	21.5	90
21	1165	9.5	21	90
22	1165	9.5	21	90
23	1165	9.5	20.5	93
24	1165	9.5	19.5	95

Transferred from
#1 to Bath
July 16, 20,
Total Amps 1142

N^o 2 Bath

July 17-20

AM	Wells	Temp	Temp	Total
100	1165	9-5	19	93 493
200	1165	9-5	19	90 512
180	1170	9-5	18.5	90 530
2	1170	9-5	20	95 558
3	1170	9-5	20	95 570
4	1170	9-5	19.5	95 589
5	1170	9-5	19.5	95 609
6	1170	9-5	20	93 629
7	1170	9-5	20	90 649
8	1170	9-5	20	90 669
9	1170	9-5	19.5	90 688
10	1170	9-5	19	90 707
11	1170	9-5	19	89 726

Out 36 hours
200 my 120 hours

Total Camp - 726
" hours 86
Driving Camp - 20 hours
Out July 17-20

Reverses 60 min then full
current on bath

W. A. Nickel Zinc pentam

No. 2 Copper bath dry

full current on

July 17-11:00 P.M.

After 10 minutes copper color

on face of disc ~~for 10 min~~

Note how surface.

No. 2 Baths

Started July 17-20

W. A. Nickel Zinc pentam

11:00	11:70	9-5	18-5	92	18
11:00	11:70	9-5	18-5	92	18
11:00	11:70	9-5	18	92	36
11:00	11:70	9-5	18	92	54
11:00	11:70	9-5	18	92	72
11:00	11:70	9-5	19	92	91
11:00	11:70	9-5	19	92	110
11:00	11:70	9-5	20	90	130
11:00	11:70	9-5	20	90	150
11:00	11:70	9-5	19-5	90	170
11:00	11:70	9-5	19-5	90	189
11:00	11:70	9-5	19	90	208
11:00	11:70	9-5	19	90	227
11:00	11:70	9-5	19	90	246
11:00	11:70	9-5	19-5	92	265
11:00	11:70	9-5	19-5	92	284
11:00	11:70	9-5	19-5	92	304
11:00	11:70	9-5	20	94	324
11:00	11:70	9-5	20	94	344
11:00	11:70	9-5	19	94	363
11:00	11:70	9-5	19	94	382
11:00	11:70	9-5	19	94	401
11:00	11:70	9-5	19	90	420
11:00	11:70	9-5	19	90	439

Transfered from

#1 in bath

July 17, 20.

12:15 P.M.

98 amperes

Total Amps 735
" hours 38 1/2
Average Amps 19.

LY-18-20

[illegible]

Box of Copper Fork
 Put mailed at 12 PM Sunday night
 July 18.

5-26

Start of Experiments

19.20.12.11 PM				Hi BATH	
10	11	12	13	1	2
105	105	1280		1A	2H
105	105	"		12	12.5
103	105	"		12.5	12.5
103	104	"		12.5	12.5
104	104	"		12	12.5
104	104	"		12	12.5
Total Amps				61	62
				Count	Count
19.20.12.11 PM				1	2
104	104	1280		3A	4A
104	103	1780		10	11.5
103	103	1780		10	23
104	104	1780		10	84
103	100	1780		10	46
107	105	1280		12	57
106	105	"		10	69
106	104	"		10	80
	98	"		65	92
	98	"		Count	103
	98	"			115
	98	"			126
	97	"			137
	96	"			148
	96	"			159
					170

Both moulds showed signs
of breaking at 1.15 AM

in Baths

	Spd	Vite	Temp	Exp	BATH		BATH	
					1	2	1	2
1250	9.5	98	5A	10	out			
"	"	96	4A	10	151			
1275	"	98	6A	20	out	10A		
"	"	98	7A	30		11	11A	
"	"	96		40		22	11	
"	"	77		50		33	22	
"	"	77		60		45	33	
"	"	77		70		45	44	
"	"	72		80		55	55	
"	"	92		90		66	66	
"	"	95	8A	10	out	77	77	
1275	9.5	93	90	9A	15A	10A	out	out
"	"	95		21	10			
"	"			31-5	20			
"	"			out	30			
"	"				out			
1275	9.5	90	10A	10A	9.5	10A	9.5	
"	9.5		87	11A	9	10	10A	
1275	9.5	80	87	12A	18	20	20A	
"	"		88	13A	24	20	20A	
"	"		89		out	30	30A	
"	"				out			

#1 Ni Bath

Started Aug. 19-26						Total	Transfer to L. Upper Bath #6
Time	Temp	Watts	Amp				
11:00	127.5	162	9.5	3			
11:30	"	"	"	3		3	
12:00	"	"	"	3		6	

#2 N. Bath

	Temp	Volts	Amps	Total
10	125	1.02	9.5	3
30	"	"	"	3
0	"	"	"	3
				6

Transfer to
Copper Bath
#7

#1 Nickel Bath

Started Aug. 20

mi	875	Temp	Voltage	Amp	Total	
0	1245	98	9.5	3	—	
20	"	98	"	3.5	3	Out

#2 Nickel Bath

Started Aug 20

Wgt	Temp	Volt	Amph	Total
120	98	9.5	3	
206	98	"	3.5	3

Gut

Mr Edison
 Telegraph message
 Female direct
 Working 3 hrs then
 full current on

#2 Mr Bath					
Aug 23	20	at 11 PM			
TIME	Sp. 20	Temp	Wet	Temp	State
PM	1270	100	9.5	4	
PM	"	"	"	4	4
PM	"	"	"	4	8
PM	"	"	"	4	12
			9	2	
			9	30	
			9	30	
			9	45	
			8.5	65	
			8.5	74	
			8.5		

Aug 23

full C.

cut

Patient
 to Cu Bath

Fast
Plating Bath
Efficient

Block 215 Rev Per Minute
Started no. 10, 20. #1 Eps

TIME	Amps	amp	volt	amp	total
11:00	72	8	44	—	—
11:10	"	57	32.5	4	7
11:20	"	85	35	36.5	—
11:30	74	8.3	35	75	—
11:40	76	8.3	35	108	—
11:50	78	8.3	34.5	143	—
12:00	78	8.3	35	178	—
12:10	"	8.3	35	213	—
12:20	76	8.5	35	248	—
12:30	77	8.5	35	283	—
12:40	78	8.5	35	318	—
12:50	78	8.5	35	353	—
1:00	78	8.5	35	388	—
1:10	78	8.5	35	423	—
1:20	78	8.5	35	458	—

Remarks,

Test to try out
Solution & Electro
current

nickel free disc.

$H_2SO_4 = 27.26\%$ solution
 $CuSO_4 = 28.65\%$ " "
Content of H_2O in solution
anywhere

Speed 2000 is the
power of fast plating.

Fast Plate
Bath

Wood Bath. 95 Rev. Per Minute
 Started Not 9.30
 #2 Eff.

Time	Volts	Temp	Volt	Amp	Total	Remarks
11:40	1190	85	8	48		To try not to start
5		88	8.5	52	4	and getting current
6		98	8.4	55	56	
7		99	8.4	55	111	This disc was a piece of
8		102	8.3	55	166	not stamped had 100 amp
9		94	8.3	55	221	per fitting you
10		90	8.2	55	276	But only had

6 hrs

disc cut in two
 halves to see
 how water was
 related according
 the arrangement of
 anode chamber
 conforming to the
 degree which disc
 was rotating

Disc measured 60/100
 before put in wood
 bath, after 6 hrs at
 55 Amps measured 95/100
 Content of Bath
 $H_2SO_4 = 26.26 \text{ m. liter}$
 $CuSO_4 = 22.1 \text{ m. liter}$
 of water.

Head Bath

45 P.P.M.

#3 Sylls.

Remarks

1 hr 10 amper
thru 55 amper for
5 hrs, then
raised to 70 amper
at 55 amper rising
was very smooth.

started for 11/20

Time	Sp. gr.	Temp	Volt	Amp.	Total	Hours
A.M.	12.00	69	10	10		
"	"	72	11	55	10	1
"	"	78	12.5	55	65	2
P.M.	"	80	12	55	120	3
"	"	78	12	55	175	4
"	"	78	12	55	230	5
"	"	78	12	55	285	6
"	"	76	12.5	70	340	7
"	"	78	11.5	70	410	8
"	"	80	11	70	480	9
"	"	82	11	70	550	10
"	"	80	11	70	620	11
"	"	88	11.5	70	690	12
"	"	88	11.5	35	725	12 1/2

Analysis of contents
of solution
H₂SO₄ 277.91 gms per liter
H₂SO₄ 27.20 cc " "

Out to strips,
Measured
over all
57/1000
725 amper
12 1/2

Average 60 amper/hour

Crook. 157 R. R. L.

Started Nov 11, 20. Ely #4

Time	Sp. Gr.	Temp	Volt	Amp	Tals	Hrs	Remarks
7:30 PM	12.00	79	12.5	10			
8:30	"	78	11.5	55	10	1	Sloughed
9:30	"	79	11.5	55	65	2	of Ely #3
10:30	"	80	11	55	125	3	Ely #4
11:30	"	82	11	55	175	4	break
12:30	"	80	11	55	230	5	
1:30	"	86	11.5	55	284	6	
2:30	"	82	11.5	70	340	7	
3:30	"	84	11.5	70	410	8	
4:30 PM	"	80	11.5	70	480	9	
5:30	"	79	11.5	70	550	10	
6:30	"	82	11.5	70	620	11	
7:30	"	80	11.5	70	690	12	
5:44	"	80	11.5	35	725	12 1/2	Cont

725 Amp

Average 60 Amps this

Content of Solution Analysis
 CuSO₄ 277.91 gms per liter
 H₂SO₄ 27.20 cc " "

Rock 18 P.P.M.

Expt 5

Started Nov 2, 20.

Time	Sp. Br. Temp	Volt	Amps	Initial	Time
12:05 PM	68	9	10		
"	"	"	20	5	1/2
"	"	"	30	15	1
"	69	8.5	40	30	1 1/2
"	70	10.	50	50	2
"	74	10.	60	75	2 1/2
"	76	10.5	60	105	3
"	80	10	60	165	4
"	77	11	60	225	5
"	80	11.5	60	285	6
"	81	10.5	60	345	7
"	80	10	60	405	8
"	80	10	60	465	9
12:50 PM	80	9.5	60	525	10
"	83	9.5	60	585	11
"	82	9.5	60	645	12
"	84	9.5	60	705	13
"	85	9.5	60	765	14

Remarks
Started at 100 amps
and raised to 10 amps
every 1/2 hr till
reached 60 Amps.
Then run for 15
Amps/hr.

Added 200 cc
H₂SO₄ at start.
before analysis.

Very good surface
but excessive muck.

Content of Solution by analysis.
Crystals 290.23 gms
H₂SO₄ 26.79 gms
" " "

Wood Lake 4-R.M.

Exp #6

Started Nov. 12, 20.

Time	Sp. in Amp	Volt	Amp	Total hrs	Remarks	
12:05 PM	68	9	10			
12:30	68	9	20	5 1/2	Started at 15 Amp	
1	"	9	30	15	then raised to 15	
5:30	69	8.5	40	30 1/2	even 1/2 hr till	
6-1	72	10	50	2	60 Amp then ran	
6:20	75	11	60	75 2 1/2	to 75 Amps	
7:04	80	10.5	60	105	3	
8	84	10	60	165	4	
9	80	11	60	225	5	
10	78	10.5	60	285	6	
11	82	10.5	60	345	7	
12	84	10	60	405	8	
1:14 PM	82	10	60	465	9	
2-3	085	82	9.5	60	525	10
3-4	84	9.5	60	585	11	very good sample
4-5	86	9.5	60	645	12	out exposure made
5-6	88	9.5	60	705	13	in clay
6	88	9.5	60	765	14	

Content of Solution by analysis.
 $\text{CuSO}_4 = 290.03 \text{ gms per liter}$
 $\text{H}_2\text{SO}_4 = 26.79 \text{ gms " "}$

4:22 P.M. Wood Lake

Nov. 13, 20

Expt 7

Time	Sp. Gr.	Temp.	Volts	Amperes	Total Hrs.	Remarks
10 AM	1.045	68	5.5	18		Started at 10 AM
10:15	"	"	"	30	3	Revised amperes every
10:30	70	9	50	10	1/2	15 minutes, read
10:45	70	"	70	22	3/4	till 70 was recorded
11	72	11.5	70	92	1	then 70 amp. to 75
12	75	11.5	70	162	2	amp. hours,
1:00 PM	85	11.5	70	232	3	from
2	94	"	70	302	4	through hole lead
3	96	"	70	372	5	Rather hole
4	96	"	70	442	6	did not hole
5	98	10.5	70	512	7	break down
6	98	"	70	582	8	
7	100	"	70	652	9	
8	100	10.5	70	722	10	
9	100	12	35	757	11	Cut Out

Content of Solution by analysis Rough Surface
 $\text{CuSO}_4 = 2.57 \text{ g. per liter}$ some white dust
 $\text{H}_2\text{SO}_4 = 36.21 \text{ cc.}$ to increase in
 H_2SO_4 content
 the copper amount
 current too fast
 needed more CuSO_4
 content.

Rock 17 R.P.M.

Started Nov 13, 20.

Time	Sp. No.	Temp	Voltage	Amperes	Set	Volts
10:55	1145	68	55	10		
10:58	"	"	55	30	3	1/4
10:58	"	70	9	50	10	1/2
11	"	"	"	70	22	3/4
12	"	72	11.5	65	87	1
10:04	"	85	11.5	70	157	2
2	"	102	11	70	227	3
3	"	102	11	70	297	4
4	"	104	11	70	367	5
5	"	104	10.5	70	437	6
6	"	105	11	70	507	7
7	"	106	11	70	577	8
8	"	106	10.5	70	647	9
9	"	106	12	70	717	10
9:50	"	106	12	35	752	11

Eff #8

Remarks

Hard rubber disc with 4" hole set on axle to try get rid of brass on outer edge.
Fast going well now.
Current 10.5 amp
Amp gauge as
Eff #7

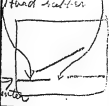
752 Amps drive

cut out.
Rough Surfaces are what else high acid content?
4" hole
Hard rubber

Content of Solution in analysis
AnSO₄ = 25.47 gph per liter
H₂SO₄ = 30.25 cc "

Bad rough center and
now much beads on outer
edge

hard rubber disc
with 4" hole in center



lock 10 R.P.M.

Started Nov. 16, 20.

Egg #9
Remarks

Time	Temp	Wt. (g)	Wt. (oz)	Total	Wt.
10 AM	12.00	65	9	10	
10:30	"	"	"	20	5
10:45	"	"	10	30	10 3/4
11	"	67	11	50	17
12	"	74	12	70	67
1 PM	"	80	12	70	137
2	"	85	11	70	207
3	"	90	10	70	277
4	"	92	11	70	347
5	"	92	11	70	417
6	"	92	12	70	487
7	"	94	12	70	557
8	"	100	12	70	627
9	"	98	12	70	697
10	"				767

Very much beads
at ledge, also
very good section
dull to the
hard rubber with
4 hole in center
which covers
inside.

Section on Egg #9
more than #8
one too close together
beads on edge, also
improvement.

Crystals of Section by Analysis
Cu 50.28, S 72.4, H 2.0, Fe 1.0
H=50.4-35.76 cc

Solution remains
because of too
much inside
surface

Wood Jambs 11. R.P.M.

Started Nov. 16, 20

Eys # 1.0

Time	Sp. In	Temp	V.H.H.	in. sp	Total	hr.
3:00 PM	1200	66	10.	10		
3:30	"	"	"	20	5	1/2
3:45 PM	"	68	10.	30	10	3/4
4	"	"	11.	50	17	
5	"	72	"	70	67	2
6	"	82	12	70	137	3
7	"	84	12	70	207	4
8	"	85	12	70	277	5
9	"	92	12	70	347	6
10	"	74	12	70	418	7
11	"	82	12	70	487	8
12 PM	"	88	12	70	557	9
1 PM	"	86	12	70	627	10
2	"	86	12	70	697	11
					767	

Remarks

Anode chamber
1/4" from cathode

No bead on
outer edge,
but center shows
much metal
may be due to
anode too close to
cathode.

Cont

Start to solution by analysis
CuSO₄ = 38.72 gms per liter
H₂SO₄ = 35.16 cc " "

Need subject to follow up to
try to eliminate beading

Anode chamber
Anode angle as
the pic.

Bec 2 1/2 inch
front view

Wood Bank,
Started Nov. 17, 20, Exp # 11

Time	Exp	Temp	Total	Time	Remarks
3:15	72	82	10		Richardson
3:30	"	"	30	3	11 Rev. Permin.
4:30	"	10.	50	10	1/2 Amide chamber
5:30	76	10	50	60	1/2 some angles on the submerged plate
6:30	12:15	84	10	50	110 2 1/2 cathodes 2 1/2" from
7:30	12:10	82	10	50	160 3 1/2 anodes & anodes 2" before
8:30		80	10	50	210 4 1/2 1/4 hr at 10 Amps
9:30		82	10	50	260 5 1/2 " " 30
10:30		86	10	50	310 6 1/2
11:30		88	10	50	360 7 1/2 then back to 50
12:30		86	10	50	410 8 1/2 Amps and run
1:30		88	10	50	460 9 1/2 to 760 Amps.
2:30		86	10	50	510 10 1/2
3:30	12:10	86	10	50	560 11 1/2 Box 9 x 1 1/2
4:30		88	10	50	610 12 1/2
5:30		86	10	50	660 13 1/2 2200 Hz 2-11 1/2
		86	10	50	710 14 1/2 20 mV to be made
					760

Content of Solution by analysis

Cu 5.04 290.03 grams per liter
H2SO4 26.79cc " "

Block
Started Nov 17-20

Time	Sp. Dr.	Temp	Volt	Amps	Total	hrs
8:44		72	85	10		
3:15		"	"	30	3	1/4
3:30		"	10	50	10	1/2
4:20		76	10	50	60	1 1/2
5:30	12:15	80	10	50	110	2 1/2
6:30	12:10	80	10	50	160	3 1/2
7:30		80	10	50	210	4 1/2
8:30		84	10	50	260	5 1/2
9:30		86	10	50	310	6 1/2
10:30		88	10	50	360	7 1/2
11:30		86	10	50	410	8 1/2
12:30		86	10	50	460	9 1/2
1:30 PM		84	10	50	510	10 1/2
2:30	12:10	84	10	50	560	11 1/2
3:30		86	10	50	610	12 1/2
4:30		86	10	50	660	13 1/2
5:30		86	10	50	710	14 1/2
					760	

Content of 5 slushin bags analyzed
Same as No 11.

Exp # 12
Ruman bag
10 Rev. Per. Min.
Anode surface
11" round.
Anode 2 1/2" deep.
First 1/2 hrs at
1/10 Amp. boost to
30 " then 1/2 put
up to 50 and
let run to 70
Amp hrs.

2 points to be made
OK

20 angle cath.
anode 3. per.
ANODE

Nov 20, 20. Wave Tank

Expt. No 13

R.P.M = 5

Remarks

Time	Sp. Gr.	Temp	Vols	Amper.	Tells	Notes
9:15	1205	76	10	10		
9:30		76	10	30	3	
9:45		78	11	50	10	
10:45		82	11	50	60	
11:45		82	11-5	50	110	
12:45	1210	88	11-5	50	160	
1:45	1205	86	12	50	210	
2:45		86	11-5	50	260	
3:45		86	10-5	50	310	
4:45		86	11-5	50	360	
5:45		92	11-5	50	410	
6:45		90	11-5	50	460	
7:45		89	11	50	510	
8:45		86	11	50	560	
9:45		84	11	50	610	
10:45		86	11	50	660	
11:45		86	11-5	50	710	
12:45		86	11-5	50	760	

1.10 p.m. current

wait 1/8 for 3 minutes

Bottle, amper. and.

1/10 of water added

12:45 1-30 bottle gone

at 3:45 current wait

1/8 for 4 minutes

4:15 current 1/8 for 5 min

5:45 1/10 of air rising

1/10 did not last long

2 Points to be made

OK

Content of solution by analysis:

Cu SO 4

H2 SO 4

290.03 gms per liter

27.95 C.C "

Clock

Rept No 14

R.P.M. = 5

Time	Sp. gr.	Temp	Volts	Amper	Calor	R.P.M.
9-15	12.05	76	10	10		
9-30		76	10	30	3	$\frac{3}{4}$
9-45		78	11	50	10	$\frac{1}{2}$
10-45		82	11	50	60	$1\frac{1}{2}$
11-45		86	11.5	50	110	$2\frac{1}{2}$
12-45	12.10	86	11.5	50	160	$3\frac{1}{2}$
1-45	12.05	82	12	50	210	$4\frac{1}{2}$
2-45		79	11.5	50	260	$5\frac{1}{2}$
3-45		80	10.5	50	310	$6\frac{1}{2}$
4-45		80	11.5	50	360	$7\frac{1}{2}$
5-45		84	11.5	50	410	$8\frac{1}{2}$
6-45		82	11.5	50	460	$9\frac{1}{2}$
7-45		82	11	50	510	$10\frac{1}{2}$
8-45		84	11	50	560	$11\frac{1}{2}$
9-45		86	11	50	610	$12\frac{1}{2}$
10-45		84	11	50	660	$13\frac{1}{2}$
11-45		84	11.5	50	710	$14\frac{1}{2}$
12-45		85	11.5	50	760	$15\frac{1}{2}$

Remarks.

at 1-10 p.m. Current
cut off for 3 minutes
at 2-45 current cut
off for 4 minutes
at 3-15 current off for 5 min

2 Prints to be made

Too much pitted
to print.

Content of Solution by Analysis
same as No 13

Wood tanks 5 R.P.M.

Started Nov 23 20.

Epp #15
Remarks

Time	Sp. Gr.	Temp.	Vol.	Wt.	Wt.	Wt.
1200	76	8.3	14			
1300	"	8.	30	5	1/2	
1400	"	78	8.	50	20	1/2
1500	"	82	11.	50	70	1 1/2
1600	"	86	10.	50	120	2 1/2
1700	"	88	10-5	50	170	3 1/2
1800	"	88	11	50	220	4 1/2
1900	"	86	11	50	270	5 1/2
2000	"	86	11	50	320	6 1/2
2100	"	86	11	50	370	7 1/2
2200	"	86	11	50	420	8 1/2
2300	"	86	11	50	470	9 1/2
2400	12010	88	11	50	520	10 1/2
2500	"	86	11-5	50	570	11 1/2
2600	"	86	11-5	50	620	12 1/2
2700	"	86	11-5	50	670	13 1/2
2800	"	86	11-5	50	720	14 1/2
2900	"	88	11-5	50	770	15 1/2

Too much milk
at center H.C.
did not pour to point

Analysis of Solution

Bus 504 287.19 gms per liter.
H2SO4 27.05 cc

Crock
Starts Nov. 22, 20.

5 P.M.

Epps 16

Time Sp. 9° 12° 76 83 10

Remarks

76 83 10

78 8. 30 5 1/2

78 8. 60 20 1

82 11. 50 70 1 1/2

86 10. 58 120 2 1/2

86 10.5 50 170 3 1/2

86 11 50 220 4 1/2

86 11 50 270 5 1/2

86 11 50 320 6 1/2

86 11 50 370 7 1/2

86 11 50 420 8 1/2

87 11 50 470 9 1/2

87 11 50 520 10 1/2

88 11.5 50 570 11 1/2

87 11.5 50 620 12 1/2

87 11.5 50 670 13 1/2

88 11.5 50 720 14 1/2

88 11.5 50 770 15 1/2

820

Linew screen
applied over the
mode to keep
back dirt specks

Too much mbs
at center N.C.
did not pour for points

Analysis same as Epps 15

Wood Tank

5 RPM

Nov 23, 20

Exp #17

Time	Sp. Gr.	Cent.	Volts	amps	Volts	amps
9:30	1200	74	9.	10		
10:00	"	"	"	20	5	1/2
10:30	"	76	8.	30	15	1
11:00	"	"	"	40	30	1 1/2
11:30	"	74	11.	50	50	2
12:00	"	76	11.	50	100	3
12:30	"	"	"	50	150	4
1:00	"	78	11.	50	200	5
2:30	"	80	11	50	250	6
3:30	"	80	10	50	300	7
4:30	"	80	9	50	350	8
5:30	"	82	10.5	50	400	9
6:30	"	82	10.5	50	450	10
7:30	"	83	10.5	50	500	11
8:30	"	83	11.	50	550	12
9:30	"	82	11.5	50	600	13
10:30	"	82	11.5	50	650	14
11:30	"	83	11.5	50	700	15
12:30	"	82	11.5	50	750	16
1:30	"				800	

Remarks

became knots
no frost

Water flat tank

Error some when
at analysis

Content of vol. by analysis
Exp 17 289.60 gms per liter.
112.50 28.00 cc

Nov 23, 20, Rock

Eff # 18

Time	Sp. Gr.	Cont.	Vol.	Comp.	Vol.	Wt.
9:30 PM	120	74	9	10		
10:10	"	"	"	20	5	
10:30	"	76	8	30	15	
"	"	71	10	40	30	
11:30	"	74	11	50	50	
12:30	"	76	11	50	75	
1:30 PM	"	"	"	50	125	
2:30	"	78	11	50	175	
3:30	"	80	11	50	225	
4:30	"	80	10	50	275	
5:30	"	80	9	50	325	
6:30	"	82	10.5	50	375	
7:30	"	82	10.5	50	425	
8:30	"	82	10.5	50	475	
9:30	"	84	11	50	525	
10:30	"	84	11.5	50	575	
11:30	"	83	11.5	50	625	
12:30	"	84	11.5	50	675	
1:30 PM	"	84	11.5	50	725	
					775	

Remarks

Anode has a thin
screen cover.

Excessive knots
No (not)

Water Plated Nickel
N-6

Error in content of
solution from dilution
Plate. No good.

Creek

S R. P. M.

Cope #19.

Time	Sp. g.	Conc.	Vol.	Grav.	Wt.	Remarks.
2:30	1165	78	9	15		
3:0		79	8.5	30	7	
3:30		78	9.5	50	22	
4:30		84	9.5	50	72	
5:30		86	9.5	50	122	
6:30		88	10	50	172	6 o'clock knots off disc - porous copper plate
7:30		86	10	50	222	
8:30		86	10	50	272	
9:30		84	10	50	322	
10:00		84	10.5	50	347	

Reason for cutout
due to poor fitting
something wrong
with foil

Electrolyte says too
low in solution

Head of = 16.96 gms. water
Cup of = 206.98 gms. "

Work Tank

Exp. No 20.

5 P.M.

Time	Sp. G.	Temp	Vel	Amount	Evap	Hum
8:30	11.65	78	9	15		
8:40		78	8.5	20	7	
8:50		78	9.5	50	26	
9:00		84	9.5	50	72	
9:10		86	9.5	50	112	
9:20		90	10	50	172	
9:30		88	10	50	222	
9:40		87	10	50	272	
9:50		86	10	50	322	
10:00		86	10.5	50	347	

Remarks.

6 o'clock. Waster Knots off
dim. porous Copper
plate -

Salutatio n.c.

Rock 5 RRM.

Started Nov 21, 20

Exp #21

Time	Sp. No.	Temp	Vol	Temp	Total	Bar
8 AM	1180	66	8.5	15		
	"	"	9.	30	7	1/2
	"	68	10.	50	22	1
	"	"	"	50	72	1 1/2
		72	9.5	50	112	2 1/2
		76	9	50	172	3 1/2
		80	9	50	212	4 1/2
	1190	81	9	50	272	5 1/2
		84	8.5	50	312	6 1/2
		85	8.5	50	372	7 1/2
		85	8.5	50	422	8 1/2
		86	9	50	472	9 1/2
		84	8.5	50	512	10 1/2
	1205	86	9	50	572	11 1/2
		86	9	50	612	12 1/2
		86	9	50	672	13 1/2
		87	9.5	50	712	14 1/2
		87	9.5	50	747	15

6.0 cc. very fine
plating added
250 c.c. of sulphuric
acid to 25 yellow water
and 12.5 cc. of phosphate

Plating slightly
better now & solution
getting normal

Content of solutions before
adding 250 cc H₂SO₄ + 12 lbs. K₂SO₄
CaSO₄ = 246.92 gms per liter
22.01 cc

Wood Tangle 5 R.P.M.

Started Nov. 26, 20

Eff. # 22

Time	Sp. No.	Lat.	Vol.	Am.	Tr. L.	Dist.
8:04	1180	68	8.5	15		
8:50	"	"	9	30	7	$\frac{1}{2}$
9:00	"	68	10	50	22	$\frac{1}{2}$
5	"	"	10	50	72	$\frac{1}{2}$
6	"	73	9.5	50	122	$\frac{3}{4}$
7	"	80	9	50	172	$\frac{3}{4}$
8	"	84	9	50	222	$\frac{3}{4}$
9	"	84	9	50	272	$\frac{3}{4}$
10	1190	86	8.5	50	322	$\frac{3}{4}$
11	"	88	8.5	50	372	$\frac{3}{4}$
12	"	87	8.5	50	422	$\frac{3}{4}$
1:04	"	87	9	50	472	$\frac{3}{4}$
2	"	87	8.5	50	522	$\frac{3}{4}$
3	1205	86	9	50	572	$\frac{3}{4}$
4	"	90	9	50	622	$\frac{3}{4}$
5	"	87	9	50	672	$\frac{3}{4}$
6	"	88	9.5	50	722	$\frac{3}{4}$
7	1230	88	9.5	50	772	$\frac{3}{4}$

60°c very granular
 Hating. added 200
 c.c phosphoric acid
 to 25 gallons water
 and the copper sulphate

Solution done Nov.
 # 21 Effs.

Wood Lake S.P.A.

Start Nov 29, 20.

Egg # 23

Time	Sp. 2.4	Sp. 1	Vol	Sp. 1	Sp. 1	Sp. 1
12:05	68	7	20			
"	72	7.5	40	20	1	
"	76	8	50	60	2	
"	84	8.5	50	110	3	
"	90	8.5	50	160	4	
"	92	8.0	50	210	5	
"	12:13	92	7.5	50	260	6
"	97	7.5	50	310	7	
"	95	7.5	50	360	8	
"	94	8.5	50	410	9	
"	"	8.5	50	460	10	
"	"	"	50	510	11	
"	"	"	50	560	12	
"	"	"	50	610	13	
"	86	7.5	50	660	14	
"	90	8.5	50	710	15	
"			50	760		

6-10 pm current off
for 3 minutes

out.

Content of solution

M = 504 32-98 CC
D. V. 299 .16 gms

R.P.M. 53.

Started Nov 29, 20.

Egg # 24

Remarks

Time	Sp. Lk	Inp	V	Amf	Int	Rev
3	1205	80	80	20		
4	1215	82	75	40	20	
5		86	75	50	60	
6		89	75	50	110	
7		92	85	50	160	
8		94	85	50	210	
9		"	"	50	260	
10		"	"	50	310	
11		"	"	50	360	
12		84	70	50	410	
1		90	85	50	460	
2	1230	90	80	50	510	
3		91	80	50	560	
4		92	105	50	610	
5		92	95	50	660	
6		"	"	50	710	

Amore 3 3/4" from Cal. hole
charger to slipper
at this time. also
53 R.P.M.
6-10 curved off for
3 minutes.

Shut down work
leaked too much
could not tighten
lock nut. 7 1/2" dia.
12- mid night

out
Surface excellent

Condens. Volume
same as 23 Egg

Wood Lake S.R.M.

Started

Nov 30.

Line	Sp. In.	Imp.	✓	Amf.	Fell	h.o.
2	1230	86	8.0	20		
3	"	86	8.0	40	20	1
4	"	87	10.5	50	60	2
5	"	92	9.5	50	110	3
6	1210	98	7.5	50	160	4
7	"	100	7.5	50	210	5
8	1215	98	8	50	260	6
9	"	106	8	50	310	7
10	1220	"	8.0	50	360	8
11	1190	88	8.5	50	410	9
12	"	"	9.	55	460	10
11A	"	86	8.	50	510	11
12	"	88	8.	50	560	12
13	"	100	8	50	610	13
14	1210	102	8	50	660	14
15	1200	104	8	50	710	15

Egg # 25-
Remarks.

Regular mould 4207C,
about 34" from calkade

Maka
2 Prints

Good surface
Very few limbs
on back.

Out.

53 R. P.M

Creek.

Started Nov. 30, 20

Exp. # 26

Remarks

2401C1 (1-2)

Time	Sp. 1	Sp. 2	V	Wind	Temp	Wind	Temp
6	1210	86	75	20			
7		86	75	40	20	1	
8	1215	88	8	50	60	2	
9		92	8	50	110	3	
10	1220	"	"	50	160	4	
11		1190	"	85	50	210	5
12	"	86	9	50	260	6	
1	101	88	8	50	310	7	
2	"	88	8	50	360	8	
		90	8	50	410	9	
	1210	91	8	50	460	10	
	1200	92	8	50	510	11	
	"	98	8	50	560	12	
	"	90	8	50	610	13	
	"	90	8	50	660	14	
	"	90	8	50	710	15	

Make 2 Pints

Excellent surface
floating

out

Cont'd

September 27.

Stations 440-3, 20,

Time	St. No.	Lat	Long	Alt	Dist	Temp
5:30	1210	98	105	100		
5:30	1210	108	10	100	100	1
4:30	1105	110	9.5	100	200	2
5:30	1195	110	10	100	300	3
6:30	1200	106	10	100	400	4
7:30	1200	104	10	100	500	5
8:30	1195	106	10	100	600	6
9:30	1195	107	10	100	700	7
10:30	1195	102	10.5	100	800	8
8:30	"	104	11.0	100	900	9
9:30	"	106	10.5	100	1000	10
10:30	"	107	10.5	100	1100	11
11:30	1195	106	11.0	100	1200	12
12:30	"	106	10.5	100	1300	13
1:30	"	103	10.5	100	1400	14
2:30	1195	104	11.0	100	1500	15
3:30	"	104	10.5	100	1600	16

Remarks

Steel plate from mounds.
for plate

added 1/2 photos dist'd

~~10:45 removed knots~~

10:45 removed knots
from outer rim.

Hold Temp. for
Mx. 110 Min. 100
Gravity 1190-1200

1:45 removed knots.
4:45 removed knots

End of value was added
7:30, 8:30, 9:30, 1:30.

1535

Experiment #28

Slurlet Dec 4, 20

100 mph his

Time	Sp. 1/2	Temp	Vel	Dist	Time	Remarks	
1:04	1205	90	12.5	100			
	1210	95	12.5	100	1	Discard Disc	
	1210	108	12	100	200	2	
	1195	108	12	100	300	3	add 3 liter nit H ₂ O.
	"	110	11.5	100	400	4	Lock off mba.
	1200	108	11	100	500	5	" 3 " " "
	"	105	10	100	600	6	Lock off mba.
	"	110	10	100	700	7	" 3 " " "
1:11	1195	110	10	100	800	8	End.

Hold Temp to
100 or above
Sp. Dr 1200.

Spec. # 29

Started Nov. 5 20

No.	St. Sp.		Cont. & Vol.		Cont. & Vol.		Remarks
	St.	Sp.	Cont.	Vol.	St.	Sp.	
2	1200	108	11.5	12.5			Run 125 Amp. hours.
3	"	114.5	11.2	11.5	12.5	12.5	1
4	"	"	11.6	11.	130	25.5	2 abt 4 3/4 hr. H=0 dist.
5	1200	120	11.	130	38.5	3	
6	"	122	11.	130	51.5	4	Switch off in box
7	"	116	11.5	12.5	640	5	" " " "
8	1205	112	11.5	12.5	76.5	6	Out.

11.5 @ 1200 p.p. hr.

Station Cont. case
no E/12 # 28 exist
see file for Amp. p.p. hr.
at off it.

Circs

Paper # 30

Dec 6, 20,

	Sp Gr	Act	Vol	Out	Gold	man	Remarks
1230	12.15	79	12	95			Edge painted
130		96	11.5	116	95	1	with gilsonite to
230	12.40	114	12	130	211	2	eliminate mbs.
330	"	110	8	125	341	3	
430	12.10	111	11	125	466	4	430 out for a hour &
530	"	110	7.5	125	591	5	remove karls mbs
630	"	110	12	130	716	6	paint edge with
730	"	110	11.5	130	846	7	gilsonite <u>Out</u>

No Good
Still beaded
gilsonite not heavy
enough around the
sharp edge of disc.

Content of Solution
 $\text{CuSO}_4 = 27 \frac{1}{2}$ gms per liter.
 $\text{H}_2\text{SO}_4 = 27.5$ " " "

added 281 cc H_2SO_4 } 25 g/liter
 2 1/2 lbs CuSO_4 } 27
 to fetch sol up to normal.

Crab

Paper # 31

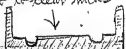
collec 7, 20,

	sp. #	len	Vol	wt	Vol	wt	Remarks
	82	9	78				To aluminum pipe
							Tap edge
12.15	100	12	124	78	1		added pitcher distilled water
12.05	118	12.5	135	202	2		
12.15	128	12.5	145	337	3		added pitcher distilled water
116	13	145	482	4			
12.00	112	12.5	140	627	5		767 + 73
116	12.5	145	767	6			Took out dish to remove
118	12.5	1	840	7			downside made. Out.

Content of pot same as
E/p # 31

Page # 32

Nov 8 20

Time	Temp	Alt	Wind	Hum	Remarks
1205	82	8.5	60		Tracked wax record
"	80	9	60	1	gasolined and beginning
"	78	9.5	60	2	covered by steam-jersey
"	76	9.5	60	3	Run at 60 Amperes
"	78	9.5	60	4	Keep temp. below 80°F
1200	76	10	60	5	Went about 75/mo
"	78	10	60	6	thick
"	76	10	60	7	grooved hard rubber
"	79	10	60	8	to transfer mks
"	80	10	60	9	
"	78	9.5	60	10	
1200	74	10	60	11	Content of solution
"	76	10.5	60	12	in 50 cc 20% H2O
"	78	10	60	13	Had 04 = 31.62
1200	78	9.5	60	14	
"	78	9	60	15	added 1 lb 6 oz B.V.L.
1200	80	9.5	60	16	2.490 cc H2O
"	9.5	60	1020	17	to make sol normal
"	80	9.5	60	18	
"	80	9.5	60	19	3'00 a.m. out for 5
1200	80	9.5	60	20	minutes to remove knots


Should finished up to 7.45 out for 5 minutes to
about 60/1000 at 7.45 remove knots.
All right.

Dec 9, 20

Exp # 33

Time	Sp. gr.	Depth	Volts	Temp	Wind	Humid
12		90	13	120		
1 pm	12.0	132	12	145	130	1
2		118	12	145	275	2
3		118	12	145	420	3

Remarks

Soft Rubber ring
around edge of disc,
plotted rubber. 

Out:



out for 5 minutes at 1 pm
to Cool solution.

M.R. Hays to of trees
all around rubber.

Baffle to stop wind
1/2 from disc

Back
16 R.P.M.

Dec. 10, 28

Time	Sp. gr.	100 ft	Vol	Ant	Dist	Time
10	1195	80	13	110		
11		100	13	125	116	1
12	1185	114	13	134	235	2
1 pm		122	13	135	369	

Expos. 34

Remarks

Went to see if water
seeps more as a head
with diver up on
notator 16 R.P.M.

53 R.P.M. Beads now too
like form ~~as sketch~~

16 R.P.M. Beads

N.G. very much

Beads

Baffle 1/2" from disc

Dec 10.

Experiment # 35

R. P. M. = 53.

Time	Temp	Vib	Auto	Temp	Time
1:00	90	14	12.5		
1:15	104	12.5	130	12.5	1
1:30	77	14	57	12.5	1.5
1:45	77	14	50	54	1
2:00	78	14.5	30	104	2
2:15	78	14	30	134	3

Remarks

mils Eye

check on mils

Same mould as above

Except under slabs

6" circular, to

try to eliminate

mils, or trees,

note how amp are

retarded by small

mole surface.

Excellent surface

quite some mils.

about 1/8" above

disc.



Baffle 1/2" from disc

Dec. 11, 20. Brock, Effs # 36

For	App	Temp	Volts	Amper	Watt	Time
1205	"	70	13.	80		
1200	"	90	13.	90	80	1
1210	"	110	13.5	87	170	2
1215	"	120	13.5	82	252	3

Remarks

Duplicate of #35
Effort anode plating
increased to 8'

Swirl mark in
center due to
what look like sol.
had gotten back of
label in the di plate
operation.



Excellent surface
Nubs about same
as #35 Effs

Baffle's from disc.

Nov 11 20

Time	Sp. #	Scrub	W. 100'	Depth	Size	W. 100'
12:05	90	115	70			
12:15	110	15	76	70	1	
12:25	108	15	66	146	2	
12:35	108	15	68	212	3	

Egg 37

cube Egg.
Remarks

Leup of #36
Egg of cathode
2' from anode
no rubber to stop
sweat at cathode
out.

Excellent surface
mbs very much

round 1/2" above
↓

Note Voltage
Gould not make any
if I raised anode voltage
would go by not make
carrying current
note generator

Mrs Edison says don't
run any more except
full time about 800 Amp
when wanted to stop.

Cleaned both
solutions at bottom
of anode tray

Dec 14, 20.

Exp. 38

Time	Height	Volt	Amperes	Scale	Remarks
12:03	102	9.5	100		
12:03	98	9.5	100	100	1
12:03	103	10	100	200	2
"	104	10	100	300	3

Remarks.
 1 1/2" anode surface
 Rubber disc 7" hole
 in center
 Cathode is
 2" from anode

 4 Rubber 1/4 from cathode
 5 surface to act as a
 6 swirl breaker
 7
 8 Run to about 200 psi
 Cut out at 30
 Amps

Baffle 3/4" from disc

300 Turned off by
 hot anode



Spinning and rubbing
 not there but slightly
 more to high around edge.

Contact by Amalgam

Lin 504 20.54 gm 12r liter

H2SO4 - 29.50 cc " "

Consist of 17 gallon lot.

Added 3oz Lin 504 To make standard
 58.5 cc H2SO4 solution which produce
 best Results.

Nov. 14, 20

Wt	Sp. gr.	Temp	Vol	Bar	Alt	Press
30	12.05	94	9.5	100		
30		114	10	100	100	1
30		100	10.5	100	200	2
30		102	10.5	100	300	3
30		100	10	100	400	4
30		104	10	100	500	5
30		104	10	100	600	6

Plate 2" from anode

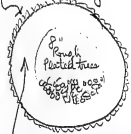
gas known
Rt. anode

Eys 39

Remarks
Duplicate of
Eys #38 hole
the rubber increase
to 8"

✓
Baffle 3/4" from disc

Beads on edge 1/8"



very smooth plate

finished to 16,000

Lec. 15 20

Sp. #	Temp	Volt	Amper	Time	Remarks
1200	160	11.5	100		
"	110	11.5	100	100	
"	108	12.5	100	200	
"	106	11.5	100	300	
"	110	11.5	100	400	
"	114	11.5	100	500	
"	110	11.0	100	600	

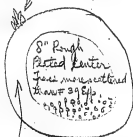
Exp # 40

Remarks.

Duplicate of # 39 Exp
except Cathode $3\frac{1}{2}$ "
from anode
8" hole in Rubber disc

Baffle $3\frac{1}{8}$ " from disc

Reeds on edge $3\frac{1}{16}$ "



gas from 100
light on 100

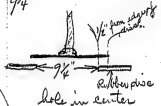
Granular plate
finished to 16/1000

Dec 16, 20,

Exp 41

Sp. Gr.	Temp.	Volts	Cur.	Time	Rev.
12.09	104	9.5	100		
"	105	9.5	100	100	1
"	100	10	100	200	2
"	102	12	100	300	3
"	104	11.5	100	400	4
"	106	11.5	100	500	5
"	100	12.5	100	600	6

Rubber disc
has hole as sketch
9/4"



Rubber disc
hole in center
out

~~Baffle 3 1/8" from disc~~



very few large beads

Baffle 3/8" from disc

4-30 curved off for 2 minutes
while solution pump broke
was mended.
finished too 27/1000

gas thrown off
by Rot anode

CLB13

Dec. 17, 20.

Cyber #42

Sp. No.	Temp.	Vol.	amt.	Time	Remarks
1190	92	14	100		Remphiate of
"	106	15	100	100	#41 Eyo, Except
"	118	14.5	100	200	mode 2' from disc.
"	106	14	100	300	Baffle 3/8" from plate,
"	108	14	100	400	7/8" hole in Rubber disc.
1195	105	13	100	500	
"	105	13	100	600	

Would have to lower
baffle if run to 800
amps. Passet beads
Very granular plate
milk ground edge
3/8" high.



Finished to 34/1000

Eyp #43

Nov. 17, 20.

Eyp No.	Temp.	Volts	Ampl.	Total	Hours	Remarks
1207	100	"	100			No Rubberdisc
1207	102	14.5	100	100	1	in Brock
1207	106	13.5	100	200	2	discs 3 1/8" from under
"	110	13.5	100	300	3	Run to 600 Amps
"	110	14	100	400	4	
"	116	14	100	500	5	
"	124	14	100	600	6	

Made thin disc. while waiting for new rubber disc. also wanted to see how trees are compared to #39 to 42 Eyp.

Content of Solutions by Analysis:
 $\text{CuSO}_4 = 252.60 \text{ gms per liter}$
 $\text{H}_2\text{SO}_4 = 33.41 \text{ " " "}$

added 6.84 liters H_2O to make standard
 " 9.79 lbs CuSO_4 solution.
 added 1 pitcher distilled water.

Dec. 18, 20

Eyp #44

Sp. gr.	Temp	Volts	Amperes	Time	Notes
125	120	12	100		
"	110	14	100	100	1
"	116	14	100	2	2
1205	100	"	100	3	3
"	104	"	100	4	4
"	106	"	100	5	5
"	"	"	100	6	6

Remarks.

Rubber disc $9\frac{1}{4}$ "
hole, anode is
 $3\frac{3}{4}$ " away from cathode

Run to 600 Amperes

Caliper after turning
and facing 28/1000

Dec 20, 20

Eys #45

44	Temp	Volts	Amps	Time	Notes
1205	100	12.5	100		
"	110	12	100	100	1
1205	100	12	100	200	2
"	108	12	100	300	3
12-10	110	12	100	400	4
1205	112	12	100	500	5
"	104	11.5	100	600	6

Remarks

Duplicate of #
44 Eys except
run to 830 Amps
and finish up,

Cent

No Good
Something wrong
Injunct at bottom of work

Dec. 21, 20.

Exper. 46.

	g.p.	temp	vol	amp	tid	hrs
15	1210	94	8	70		
15	-	104	8	70	70	1
15	-	104	8.5	70	140	2

Remarks.

Cut out n g
account of the
overflow not enough
solution above disc

Solution only 1" above disc



The pencil carried the
rotation as far as it
would throw pot to outer
edge of arc.



END

Dec 21, 20.

Expt 47

Sp. Gr.	Temp.	Vols	Grfs	Total	Time
1210	15.4	9	100		
"	"	9.5	100	100	1
"	"	10.5	100	200	2
"	"	10.8	100	300	3

Remarks.

Duplicate of #46
because of too
much trees
May be due to
pollution being more
sensitive by crystal
in cracked checked.

Cut out after 3 hrs,



No Good

Remarks #48

Crystals must crystallize on anode at 90° F. because after solution of fixed in #48 Eps. solting was not yet OK. Tests samples after both had been heated for 120° F. when disc was through its run, and the anode showed an increase of 20 gms per liter B.V. when it should of just been the reverse. Anode.

3 previous experiments cause for going wrong solution trouble due to crystallizing at anode, then jar cracked due to expansion when solution became hotter. did not take crystal out of cracked jar with new acid was being used so that rapid and not enough.

Dec. 22, 20.

Exp #48.

Sp. Gr.	Temp	Volts	Amper	Total	Hours	Remark
1220	98	95	100			Rubber diss 9 1/4" bbl
112	11	100	100	1		Anode in 3 1/4" pressure
1205	122	10	100	200	2	To run 800 amper
"	112	12	100	300	3	thin strips for
"	110	12	100	400	4	observation and
"	108	12	100	500	5	caliper .40/1000
"	110	105	100	600	6	M.B. account of pit marks
106	10-5	100	700		7	
106	11-	100	800		8	out.

Surface some traces, also edges very many pit holes in disc after turning.

Solution standard before start of this disc.

Analysis before start 25.2.48 gms B.V. per liter
 25.33 cc H₂O
 added to standardize 3.7 lb B.V.
 22.8 cc H₂SO₄

Expt #49

Dec 23, 20

no	Sp. Sol	Temp	Volt	Ampr	Total	Remarks
204	1210	102	10.	100		Replicates of
21	"	116	10.	100	100	#48 Expt because
22	"	110	"	100	200	solution did not
23	"	112	"	100	300	show up OK.
24	"	106	11.5	100	400	
25	"	102	11-	100	500	
26	"	102	10.5	100	600	
27	"	112	10-	100	700	
28	"	118	10	100	800	out

9 pit holes in
disc after turning
due to imbed.

Analysis of Plating Bath before starting
#49 Expt.

content 305.08 gms B.V. per liter
28.24 " H₂SO₄
added to make standard
2.71 cc H₂O
183. cc. H₂SO₄
shaker.

Dec. 2520.

Expt #50

Wt	Sp. Gr.	Temp	Vol	Wt. of Sol.	Wt. of Sol.	Wt. of Sol.
43	12.25	104	105	100		
45	12.10	116	105	100	100	1
45	"	120	11	100	2.00	2

Added 1 pitcher water

but not acet crystallized
on anode plate.
Solution crystallizes
when cooled by
coil in solution

Will change to a
cooling coil which
solution will run
through same as it
does at regular feeding
batches.

[ITEM(S) FOUND IN BOOK]

11/19/20 W. S. Archer

33.95 c.c. H₂SO₄ per liter
288.27 gms B.V. " " "

Added 19 lbs. B.V.
make up to 29 3/4 liters
Total -

4 bottles

Add 29 3/4 liters of the
140 liters that you have

Nov. 23/1920

Mr. Archer

Report on special sample
Car Electrolyte

H₂SO₄ — 27.05 c.c./liter

Car Sol_y — 287.19 gm/liter

Living Adulose

[ITEM(S) FOUND IN BOOK]

Nov 23, 1920

Mr. Archer

Report on special sample
of Cu Electrolyte.

H_2SO_4 — 25.60 c.c./liter

$CuSO_4$ — 304.44 gm./liter

Living Adelsch

$$\begin{array}{r} 34 \text{ gallons} \\ 4 \overline{) 136} \\ \underline{16} \\ 400 \overline{) 5460} \\ \underline{400} \\ 870 \\ \underline{800} \\ 70 \end{array}$$

22 gallons —

making that to 34 gallons
including 12 more lbs. B.V.

H_2SO_4 = 34.08 c.c. per liter
B.V. = 286.00 grams " " "

W. H. H. H.
Nov 24, 20.

[ITEM(S) FOUND IN BOOK]

Mr. Crocker

Nov. 26, 20

Sul. fume. Acet. per liter 18.96 c.c. per liter

Blue litmus " " 26.98 gms " "

F. Hilly Jr.

Started 11:20 am,
with $3\frac{3}{4}$ gallon solution in crock

add $\frac{1}{2}$ lb. B.V.,
600 cc H_2SO_4

add $9\frac{1}{2}$ lb. B.V.,
" 600 c.c. H_2SO_4

F. Hilly Jr.

25 gallon lot

600 cc H_2SO_4

24
25/600

[ITEM(S) FOUND IN BOOK]

Mr. Archer: Nov. 26, 1928
 Report on special
 sample Car Elastislyte
 H_2SO_4 — 22.01 c.c./liter
 $CuSO_4$ — 246.92 gm./liter

$$\frac{24.83}{1000.0} = \frac{X}{1.0063}$$

$$X = \frac{24.83 \times 1.006}{1000}$$

$$17.02483$$

$$\frac{1006}{1000}$$

$$14898$$

$$248300$$

$$24.97898$$

$$24.978 \text{ c.c./liter}$$

30 c.c.
 30 c.c.
 30 c.c.

[ITEM(S) FOUND IN BOOK]

B.V. per liter = 246.46 gms
H₂SO₄ " " = 18.83 c.c.

Irving Adelson

[ITEM(S) FOUND IN BOOK]

Walter Archer

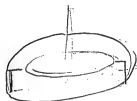
Try this Crack again.



But put a wooden piece
Clear across the crack to
stop the solution from
being carried around by
the disc. This makes
the



Mar 2, 20.



piece maple $\frac{1}{4}$ thick
reaching clear across
crack & of such a height
from the bottom that face
of the disc just clears
it by $\frac{1}{16}$ of an inch.

Ed

(ITEM(S) FOUND IN BOOK)

Mr Elwin,

Nov. 27, 20.

I have three discs made from fast plating two prints have been made of two of them the other print will be finished to day. Clearly says!

The two prints showed defects after test by Caldwell and I asked him to have two more to see if defect could be traced back to disc I made the working mould from. This # 50210 was discarded Caldwell says and should not been sent through the circuit.

Since these above experiments samples taken to the new chemist for content of solution, moulds polished did not give favorable results, which is due to the calculation which chemist made an error I gave Skittled a check sample yesterday and found content too low in acid and copper sulfate and gradually raising till proper content is reached which produces best result.

As to angle of anode chamber the copper anode does not feed itself down, which I judge is somewhat due to the irregular form of copper sheet sharp edges catches in drilled hole partition.

Fred Ott has now sketched to stop swirl of solution and will fix it in the bath.

H. H. Hatcher.

Copy

[ITEM(S) FOUND IN BOOK]

Archer

No Report from you
on progress of Rapid
plating. I must get ahead
on this. Did you make
a good one from a good
female & have prints made
want to see that surface
is good. Then I will
have 2 more baths
made if present one works
OK — Does the Copper
eat feed down the
angle OK or does it
stick — Σ

Nov. 29, 1930.

Mr. Archer:

Report on special sample
Cu Electrolyte
H₂SO₄ — 27.98 c.c. / liter
Cu SO₄ — 276.51 gm / liter

P. Adelaar:

453
27.98
276.51
329.16

32.98 c.c. H₂SO₄

299.16 gm B.V.

[ITEM(S) FOUND IN BOOK]

1326	6,131
257	50.3
9282	18393
6630	306550
2652	
34,078.2	308,3893

34,08 Q.C. H₂SO₄ for etc.

308.39 gms B.V. " " "

Nov 30, 20

[ITEM(S) FOUND IN BOOK]

Dec 2, 1920

B. R. per liter = 288.77 grams

Sulfuric acid per liter = 30.37 c.c.

pendant Sol

Test taken after Apr 20/26

225 / 750 / 3
7

Add 3.8 c.c. H_2SO_4 per liter
Add 50 c.c. Water per liter

Add 456 c.c. H_2SO_4
Add 6 liters Water

[ITEM(S) FOUND IN BOOK]

Dec. 4, 1920

Mr. Archer:

Report on special
sample Cu Electrolyte

H_2SO_4 — 28.44 c.c./liter

$CuSO_4$ — 274.67 gm./liter

Living Adelsolver

wants $7\frac{1}{2}$ oz. H_2SO_4

" H_2SO_4 20% solution

add 193 c.c. H_2SO_4

" 3 lb. 2 oz. of B.V.

to Hilly

Dec. 4, 1920

Dec. 6, 1920

Mr. Archer:

Report of special
sample Cu Electrolyte

H_2SO_4 — 27.51 c.c./liter

$CuSO_4$ — 277.12 gm./liter

Living Adelsolver

add { 281 c.c. H_2SO_4 } 25 gal. lot
{ 2 $\frac{1}{2}$ lbs $CuSO_4$ }

[ITEM(S) FOUND IN BOOK]

Add 120 cc. H_2SO_4
" 360 grams $CaSO_4$

[ITEM(S) FOUND IN BOOK]

Archer -

Eye #32
Rec'd 8, 20

Have Mc Mullen
get a discard or tracked.
Way record from Werner
Have it grafted, and
covered by Dempsey
until ready to go in the
General bath. At this
point take it + put it
in the fast bath at
60 ampere rate + keep
bath as cool as you
can. When it is
about 75/1000 thick
take out + have MCM G.
strip it + used + examine

If you fail by reason
of too hot bath, Run
solution thru 2 or
3 times faster + put
as much water thru
cooling coil as is
possible

Edwin

[ITEM(S) FOUND IN BOOK]

Dec. 8, 1920

Mr. Archer

Report on special
sample Cu Electrolyte

H_2SO_4 — 31.62 c.c./liter

$CuSO_4$ — 288.77 gm./liter

Living Adelsch

Add 4.1 liter Water

" 2.5 lb. $CuSO_4$

add 1.6 lb. B.V.

2490 L.C. Water

into 15 gallon lot

check before Ept 38 was made

Dec. 14, 1920

Mr. Archer

Report on special sample
Cu Electrolyte

H_2SO_4 — 29.50 c.c./liter

$CuSO_4$ — 287.54 gm./liter

Living Adelsch

17 gal.

Add 58.5 c.c. H_2SO_4 to on

3.03 $CuSO_4$ Dec. 3, 1921

[ITEM(S) FOUND IN BOOK]

Mr. Archer - Dec. 18, 1920.

Report on special
sample Cu Electrolyte.

H_2SO_4 — 31.23 c.c. / liter

$CuSO_4$ — 286.93 gm / liter

Irving Adelsch.

{ Add 1.94 liters Water

{ Add 4 lbs and 7 oz $CuSO_4$

→ as on Dec. 2, 1920

17 gal. 6.8 liters

Amplifier because amperes were low
due to line voltage low.

Dec. 18, 1920.

Mr. Archer -

Report on special
sample Cu Electrolyte.

H_2SO_4 — 33.4 c.c. / liter

$CuSO_4$ — 252.60 gm / liter

Irving Adelsch.

{ Add 6.84 liters Water

{ Add 9.79 lbs. $CuSO_4$

→ as on Dec. 2, 1920 - 17 gals.

[ITEM(S) FOUND IN BOOK]

Mr. Archer

12/22/20

Analysis = 252.48 grams B.V. per liter
257.33 c.c. H₂SO₄ " "

Therefore add 5 1/2 lbs B.V. +
340 c.c. H₂SO₄

to 17 gallons to make the total same
as a Dec 2, 1920

3.7 lbs B.V. add to 12 gallons of
228 c.c. H₂SO₄

Stetley

Mr. Archer

12/22/20

305.08 grams B.V. per liter
28.24 c.c. H₂SO₄ per liter

add 2,711 c.c. H₂O.
183. c.c. H₂SO₄.

Experiment #19

Stetley Jr.
To

**Notebook Series -- Notebooks by Edison and Other Experimenters
Disc Plating Experiments
Notebook, N-20-06-12.1**

This notebook was used during June-August 1920 by Edison, Walter N. Archer, Frank Dettlef, Jr., Howard F. Redford, and possibly other experimenters. The entries pertain to the plating processes involved in the manufacture of disc records. The early entries by Edison focus on attempts to copperplate with anodes made from nickel-faced copper molds no longer needed for production. Following these entries are tabular reports of various molds plated in "Bath 8" in June and July with information on the date and time, specific gravity, volts, amps, and other conditions during plating. There are occasional notes, suggestions, and instructions by Edison. The second part of the book relates to a series of experiments conducted by Archer in July and August in which rubber varnish was used for protection against copper depositing on the backs of the molds. There are occasional notations by experimenter Paul B. Kasakove, which he added to the book during the 1960s while working as an interpreter at the Edison National Historic Site. The front cover is labeled "June 12-20-To July 31-20-" and is marked "No 8." The pages are unnumbered. Approximately 160 pages have been used.

States on opposite page started
to Crystallize nothing taking
where it started to crystallize

The front Nickel actually has
all disappeared. Eaten up
entirely probably gone into
fines & some dissolved -

Bath 8



to catch fine copper

Nickel basket not plated filled with
copper pieces cut from working
wheels bent & twisted so all
porous - No cloth filter -

SG	Volt	Amp	Temp	Total amp
1170	9.5	23	82	23
1170	9.5	23	82	48
1170	9.5	25	80	73
1170	9.5	25	80	98
1170	9.5	27	83	125
1170	9.5	27	83	152
1170	9.5	27	83	179
1170	9.5	28	83	207
1170	9.5	28	81	235
1170	9.5	27	85	262
1170	9.5	27	84	289
1170	9.5	27	84	316
1170	9.5	28	82	344
1170	9.5	28	82	372
1170	9.5	28	82	400

Notes to be written

Sunday 4pm Laid the bath warm a
Varnish - Blurred up at back $\frac{3}{4}$ dia
+ $\frac{1}{4}$ " outwardly. 3 blisters like
this - Varnish must be made
to stand higher temp, in getting
in behind fan & copper plating
underneath fan box

Circle basket side broken off
2:30 PM

Facing the disc -

Investigate if Porcelain face
was really Nickel

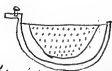
Basket with face gone is
functioning OK without
it - its probably only
the back is necessary
The other part of basket
could be an insulator

Bath 8

Time	Volts	Amps	Temp	Total amp	
6:00	1170	9.5	27	82	427
7:00	1170	9.5	27	81	454
8:00	1170	9.5	27	84	481
9:00	1170	9.5	27	82	508
10:00	1170	9.5	27	82	535
11:00	1170	9.5	27	82	562
12:00	1175	9.5	27	81	589
1:00	1175	9.5	26	81	615
2:00	1175	9.5	26	81	641
3:00	1175	9.5	28	82	669

Taken Out

6:46 Amp for 24 hours
at about 27 amp/hr
Out. 3:44 PM



1st Disc from basket Anode
Chamber filled June - 25

268 Bath 1st Disc
from Anode

TIME	Spn	Folts	Comp	Temp	Total
25					
PM					
1:45	1170	9-5	17 3/4	80	
2:15	1170	9-5	18	80	18
2:45	1170	9-5	18	80	36
3:15	1170	9-5	18	80	54
3:45	1170	9-5	18 1/2	80	72
4:15	1170	9-5	18 1/2	80	91
4:45	1170	9-5	18 1/2	82	109
5:15	1170	9-5	19	82	128
5:45	1170	9-5	19	82	147
6:15	1170	9-5	20	81	167
6:45	1170	9-5	19	83	186
7:15	1170	9-5	19	83	205
7:45	1170	9-5	19	83	224
8:15	1170	9-5	19	81	243
8:45	1170	9-5	19	81	262
9:15	1170	9-5	19	81	281
9:45	1170	9-5	19	81	300
10:15	1170	9-5	19	81	319
10:45	1170	9-5	19	81	338
11:15	1170	9-5	18	81	356
11:45	1170	9-5	18	80	374
12:15	1170	9-5	18	80	382
PM					
1:00	1170	9-5	18	80	400
1:30	1170	9-5	18	80	418

over

Old 8 Bath 1st Size in
from
enough

JUNE

26- P.M.	Sh	Old	Comp	Comp	Total
00	1170	9-5	18	83	436
00	1170	9-5	18	83	454
00	1170	9-5	18	80	472
00	1170	9-5	18	80	490
00	1170	9-5	18	83	508
00	1170	9-5	18	83	526
00	1170	9-5	18	83	544
00	1170	9-5	18	83	562
00	1170	9-5	18	83	580
00	1170	9-5	18	8	598
00	June 29				
00	1170	9-5	18	81	616
00	1170	9-5	17	80	633
00	1170	9-5	17	81	650
00	1170	9-5	17	81	667
00	1170	9-5	18	81	685
00	1170	9-5	18	81	703
00	1170	9-5	18	81	721
00	1170	9-5	18	81	739
00	1170	9-5	18 1/2	83	757
00	1170	9-5	18 1/2	83	775
00	1170	9-5	18 1/2	83	793
00	1170	9-5	18	83	801
00	1170	9-5	18	83	819
00	1170	9-5	18	83	837

No 8-Bath let Disc Out
for winds

ONE
27
20
30
20

Sta	Volts	Comp	Comp	Total
1170	9-5	18 1/2	83	855
1170	9-5	18	83	864
		Out		Comp

4 8 1/2 hours
18 Comp Reg
now

Bath No 8. 2nd *Disc in same and started*

ONE 21	Shw	Talk	Camp	Temp	Total
0	1170	9-5	18	83	
00	1170	9-5	18	83	18
00	1170	9-5	18	83	86
00	1170	9-5	18	83	54
00	1170	9-5	18	81	72
00	1170	9-5	18	81	90
00	1170	9-5	18	81	108
00	1170	9-5	17	86	125
M June 25					
0	1170	9-5	17K	80	142
0	1170	9-5	17K	80	160
00	1170	9-5	16	81	176
00	1170	9-5	16	81	192
00	1170	9-5	16	81	208
00	1170	9-5	16	81	224
00	1170	9-5	16K	82	241
00	1170	9-5	16K	82	258
00	1170	9-5	17	81	275
00	1170	9-5	17	81	292
00	1170	9-5	16.5	83	308
00	1170	9-5	17	83	325
00	1170	9-5	16	80	341
00	1170	9-5	16	83	357
00	1170	9-5	15.5	81	373
00	1150	9-5	15.5	82	388

#8 Bath

2nd chse,
drase, scraps and/or

2320.					
Sp. No.	Volts	Amper.	Temp.	Total	
1165	9.5	16.5	78	405	
"	1165	9.5	16	80	421
"	1165	9.5	16.5	80	437
"	1165	9.5	16.5	80	454
"	1165	9.5	16.5	80	470
"	1165	9.5	16.5	80	487
"	1165	9.5	16	80	503
"	1165	9.5	16	80	519
June 25					
1165	9.5	16	81	535	
1165	9.5	16	81	551	
1165	9.5	16	82	567	
1165	9.5	16	82	583	
1165	9.5	16	81	603	
1165	9.5	16	81	619	
1165	9.5	16	82	635	
1165	9.5	16	82	651	
1165	9.5	16.5	87	667	
1165	9.5	16.5	86	684	raind 1/2 v. at 1215 AM
1165	10.	17	90	701	
1165	10.	17	86	718	
1165	10.	16	90	730	
1165	10.	16.5	90	746	
1165	10.	16.5	90	763	
1165	10	16	88	779	

$$575 \overline{) 962.88} \quad (16.7$$

$$\begin{array}{r} 575 \\ \underline{3870} \\ 3750 \\ \underline{4200} \\ 4025 \end{array}$$

#8 Bath #2 disc
 seisc. scrup anode.
 Start June 27, 201 5 P.M.
 Finish " 30, 20 3.30 A.M.
 Total Amp = 962
 Average " = 16.7
 Total hours = 57½

Left in by mistake

#8 Bath

2nd disc.
 seisc. scrup anode

Time	Sp. Dr.	Volta	Amp	Temp	Total
5:10	1165	10	16.5	87	795
5:20	1165	10	16.5	85	812
5:30	1165	10	16.5	85	828
5:40	1165	10	17	85	845
5:50	1165	10	17	85	862
6:00	1165	10	17	85	879
6:10	1165	10	17.5	85	896
6:20	1165	10	17.5	83	914
6:30	June 30.				
6:40	1165	10	16	82	930
6:50	1165	10	16	82	946
7:00	1165	10	16	82	962

Out -
 Left in by
 mistake

Reg. Chap - feed made
partition, Wash Rag

No 8 1st Line in
Bath

Time	Sh	Orth	Imp	Imp	Net
100	1165	9-5	16	80	
200	1165	9-5	16	80	16
300	1165	9-5	16	80	16
400	1165	9-5	16	80	16
500	1165	9-5	16	80	16
600	1165	9-5	16	80	16
700	1165	9-5	16	80	16
800	1165	9-5	16	80	16
900	1165	9-5	16	80	16
1000	1165	9-5	16	80	16
1100	1165	9-5	16	80	16
1200	1165	9-5	16	80	16
1300	1165	9-5	16	80	16
1400	1165	9-5	16	80	16
1500	1165	9-5	16	80	16
1600	1165	9-5	16	80	16
1700	1165	9-5	16	80	16
1800	1165	9-5	16	80	16
1900	1165	9-5	16	80	16
2000	1165	9-5	16	80	16
2100	1165	9-5	16	80	16
2200	1165	9-5	16	80	16
2300	1165	9-5	16	80	16
2400	1165	9-5	16	80	16
2500	1165	9-5	16	80	16
2600	1165	9-5	16	80	16
2700	1165	9-5	16	80	16
2800	1165	9-5	16	80	16
2900	1165	9-5	16	80	16
3000	1165	9-5	16	80	16
3100	1165	9-5	16	80	16
3200	1165	9-5	16	80	16
3300	1165	9-5	16	80	16
3400	1165	9-5	16	80	16
3500	1165	9-5	16	80	16
3600	1165	9-5	16	80	16
3700	1165	9-5	16	80	16
3800	1165	9-5	16	80	16
3900	1165	9-5	16	80	16
4000	1165	9-5	16	80	16
4100	1165	9-5	16	80	16
4200	1165	9-5	16	80	16
4300	1165	9-5	16	80	16
4400	1165	9-5	16	80	16
4500	1165	9-5	16	80	16
4600	1165	9-5	16	80	16
4700	1165	9-5	16	80	16
4800	1165	9-5	16	80	16
4900	1165	9-5	16	80	16
5000	1165	9-5	16	80	16

Not a number

Cleaned up .045
 Outside Caliper = .053
 Inside = .063

$$45) \begin{array}{r} 753 \\ 225 \\ \hline 528 \\ 330 \\ \hline 198 \\ 315 \\ \hline \end{array} \left(16.7 \right)$$

Run total to 750 Amps.
 # 8 Bath After cleaning tank
 free from grease & oil.
 # 1st disc.

Start July 3, 20, 11 P.M.
 Finish " 5, 20, 8 P.M.
 Total Amps 753
 " hours 45
 Average Amp 16.7

8 Bath 1st disc in

AM	Shw	Colts	Amps	Time	Total	
11:00	1165	9-5	17	81	417	not a notation
12:00	1165	9-5	16	81	433	
1:00 P.M.	July 5	20				
2:00	1165	9-5	16	81	449	
3:00	1165	9-5	16 1/2	81	465	
4:00	1165	9-5	16 1/2	81	482	
5:00	1165	9-5	16	81	498	
6:00	1165	9-5	16	81	514	
7:00	1165	9-5	15 1/2	81	529	
8:00	1165	9-5	15 1/2	81	545	
9:00	1165	9-5	15 1/2	81	560	
10:00	1165	9-5	15 1/2	81	575	not a notation
11:00	1165	9-5	16	81	591	
12:00	1165	9-5	16	81	607	
1:00	1165	9-5	16 1/2	81	624	
2:00	1165	9-5	16	81	640	
3:00	1165	9-5	16	81	656	
4:00	1165	9-5	16	81	672	
5:00	1165	9-5	16	81	688	
6:00	1165	9-5	16	81	704	
7:00	1165	9-5	16 1/2	81	720	
8:00	1165	9-5	16 1/2	81	737	not a notation
9:00	1165	9-5	16	81	753	
					45 hrs	Gut

Knould in No 8 slope was
rounded off.

Leise, Leiche 1 1/2 R.P.M.

Added 500 general bath slope to
plateing solution 11th July.

July 6 Bath No 8

2nd disc in

P.M.	Spec	Vols	Amph	Temp	Total
2-30	1165	9-5	15	83	
5-30	1165	9-5	15-5	83	15
6-30	1165	9-5	16	83	81
7-30	1165	9-5	16	84	47
8-30	1165	9-5	16	84	63
9-30	1165	9-5	16	84	79
10-30	1165	9-5	16	84	95
11-30	1165	9-5	16	84	111
12-30	1165	9-5	16	84	127
1-30	1165	9-5	15-5	84	143
2-30	1165	9-5	15-5	84	158
3-30	1165	9-5	15-5	84	174
4-30	1165	9-5	15-5	84	189
5-30	1165	9-5	15-5	84	205
6-30	1165	9-5	15-5	84	220
7-30	1165	9-5	15-5	84	236
8-30	1165	9-5	16	85	252
9-30	1165	9-5	15-5	85	267
10-30	1165	9-5	15-5	85	282
11-30	1165	9-5	15-5	83	298
12-30	1165	9-5	15	82	313
1-30	1165	9-5	15	83	328
2-30	1165	9-5	15-5	83	343
3-30	1165	9-5	15-5	84	359

$$\begin{array}{r}
 30 \overline{) 466} \quad 15.5 \\
 \underline{90} \\
 186 \\
 \underline{180} \\
 6
 \end{array}$$

8 Bath

2nd place in

Sp. No.	Volts	Amperes	Temp.	Total	1.77
1165	9.5	15.5	84	374	
1165	9.5	16	85	390	
1165	9.5	15.5	84	406	
1165	9.5	14.5	84	421	
1165	9.5	15.5	83	436	
1165	9.5	15	83	457	
1165	9.5	14.5	82	466	

Taken out to make
room for # 2 in place
of July 7, 20.

Revolved 2 minutes in lu bath, was
put in lu bath wet.
Ni plated disc from #2 in Bath
Run to 600 Amps hours.
Give to Mr Edison to see if he can
polish it if possible.
No skimmer in bath.

#8 Bath

2nd disc
Ni plated disc
from #2 Bath

July 7 20	Sp	Volts	Amps	Temp	Total
11 1/2	116.5	9.5	15	82	
2 10	116.5	9.5	15	82	15
3 10	116.5	9.5	15	82	30
4 10	116.5	9.5	15	82	45
5 10	116.5	9.5	15	82	60
6 10	116.5	9.5	16	82	76
7 10	116.5	9.5	16	82	92
8 10	116.5	9.5	15.5	82	107
9 10	116.5	9.5	15.5	82	123
10 10	116.5	9.5	15.5	82	138
11 10	116.5	9.5	16	82	154
12 10	116.5	9.5	16.5	80	170
1 10	116.5	9.5	16.5	82	187
2 10	116.5	9.5	16	82	203
3 10	116.5	9.5	15.5	80	218
4 10	116.5	9.5	15.5	80	234
5 10	116.5	9.5	15.5	80	249
6 10	116.5	9.5	16	80	265
7 10	116.5	9.5	16	80	282
8 10	116.5	9.5	15.5	81	297
9 10	116.5	9.5	15.5	80	313
10 10	116.5	9.5	15.5	80	328
11 10	116.5	9.5	15.5	80	344
12 10	116.5	9.5	15.5	80	359

Added 1000 gm. both dope to
copper plate sol. at 11 A.M. July 9.
After bed was turned off copper
plate stripped from nichel, leaving
Ni plate on allic.

$$39 \mid \begin{array}{r} 602.8 \\ 39 \\ \hline 212 \\ 195 \\ \hline 1170 \\ 78 \\ \hline 52 \end{array} \mid 15.2$$

Start July 7 30. - 11 AM.
Finish " 9. - 2 PM.
Total Amps 602
" hours 39
Average Amper 15.2

" 8 Bath

3rd disc
Ni plate
No 2 Bath

S. No.	Volta	Amp	Temp	Total
1165	9.5	15.5	80	375
1165	9.5	15	80	390
July	9.20.			
1165	9.5	15	80	405
1165	9.5	15	80	420
1165	9.5	15	80	435
1165	9.5	15	80	450
1165	9.5	15	80	465
1165	9.5	14.5	80	479
1165	9.5	14.5	80	494
1165	9.5	14	80	508
1165	9.5	15	78	523
1165	9.5	15.5	79	538
1170	9.5	15.5	80	554
1165	9.5	16	80	570
1165	9.5	16	82	586
1165	9.5	16	81	602

added anode
scraps.

Out

Copper disc. 8-4 Female
 Run 2 min in Ni bath no current.
 Then run to 40 Amp hours.

#1 Bath Ni Plate.

3rd phase in
 East mode

Started July 9, 20, 4:30 PM.					
Sp. No.	Volts	Amps	Temp	Total	
1280	9.5	9	85		
1280	9.5	10	85	18	
1280	9.5	10	85	28	
1280	9.5	10	95	38	
1280	9.5	10	95	48	
1280	9.5	11	97	51	
1280	9.5	11	98	62	
128	9.5	11	98	73	

Left

Transferred to
 #26 Copper bath

Copper disc, 8-4 Raw 2 mm in hi
bath. No current.
Take out at 40 Amps hours

#1 Bath in Plate 4th disc

Started July 9, 20. 11:15 PM.				
Time	Volt	Amp	Temp	Total
11:15	1280	9.5	11	98
11:30	1280	9.5	11	98
11:45	1280	9.5	10	98
12:00	1280	9.5	10	98
12:15	1280	9.5	10	98
12:30	1280	9.5	10	98
12:45	1280	9.5	10	98
1:00	1280	9.5	10	98

Cent
Was taken out
by night shift
and washed then
put on rack

2nd One Clean it with electric
cleaner 1 minute wash well
and rinse with distilled water
and put in the bath with pointed
in and fast belt, or as quick as possible.
Run to 600 Amp hours.

#8 Bath Copper Plate

Started July 10, 20, 11:45 PM				
Sp. No.	Potential	Amps	Temp	Total
1165	9.5	16	80	
1165	9.5	16	80	16
Aug 10				
1165	9.5	16	80	32
1165	9.5	16	80	48
1165	9.5	16	80	64
1165	9.5	16	80	80
1165	9.5	16	80	96
1165	9.5	16	80	112
1165	9.5	16	80	128
1165	9.5	16	80	144
1165	9.5	16	80	160
1165	9.5	16	80	176
1165	9.5	16	80	192
1165	9.5	16	80	208
1165	9.5	16	80	224
1165	9.5	16	80	240
1165	9.5	16	80	256
1165	9.5	16	80	272
1165	9.5	16	80	288
1165	9.5	16	80	304
1165	9.5	16	80	320
1165	9.5	16	80	336
1165	9.5	16	80	352
1165	9.5	16	80	368

Take out
when 600
amp hours
and wash &
put on rack

23, Hour

$$\begin{array}{r}
 46 \bigg) \frac{747}{165} \bigg) 16.2 \\
 \underline{287} \\
 276 \\
 \underline{11} \\
 100
 \end{array}$$

1000 Put in more scrap Run

* 8 Bath Open Plot

Sta	Rolls	Comp	Temp	Plot
1165	9-5	16	80	354
1165	9-5	16	80	400
1165	9-5	16	80	415
1165	9-5	16	80	432
1165	9-5	16	80	448
1165	9-5	16	80	464
1165	9-5	16	80	480
1165	9-5	16	80	496
1165	9-5	16	80	512
1165	9-5	16	80	528
1165	9-5	16	80	544
1165	9-5	17-5	80	561
1165	9-5	17	80	578
1165	9-5	17	80	595
1165	9-5	17	80	612
1165	9-5	17	80	629
1165	9-5	17	80	646
1165	9-5	17	80	662
1165	9-5	17	80	680
1165	9-5	17	81	697
1165	9-5	17	81	714
1165	9-5	17	81	731
1165	9-5	16-5	81	747
Out				46 hours

NE 1. Nickel mould run for
2 minutes. After current put on
155 Amp.

NE 8 mould taken from rack
put in Bath dry with
current on

NE 8 Bath Copper

JULY	Ln.	Volts	Amps	Amps	Total
7:15 PM	1165	9.5	16	81	
7:20	1165	9.5	16.5	81	16
7:30	1165	9.5	16.5	81	33
7:40	July 12				
7:50	1165	9.5	16.5	81	49
8:00	1165	9.5	16.5	81	66
8:10	1165	9.5	16.5	81	82
8:20	1165	7.5	16	81	98
8:30	1165	9.5	16	81	114
8:40	1165	9.5	16	81	130
8:50	1165	9.5	16.5	81	147
9:00	1165	9.5	16.5	81	163
9:10	1165	9.5	16.5	83	180
9:20	1165	9.5	16.5	82	196
9:30	1165	9.5	16.5	82	213
9:40	1165	9.5	17	80	230
9:50	1165	9.5	17	80	247
10:00	1165	9.5	16.5	80	263
10:10	1170	9.5	16	80	279
10:20	1165	9.5	16.5	80	296
10:30	1165	9.5	17	80	313
10:40	1165	9.5	17	80	330
10:50	1165	9.5	16.5	80	346
11:00	1165	9.5	16.5	80	363
11:10	1165	9.5	16	81	379

Revolve 2 min in Bath
Put in dry.

in 171 Amp-hours.
Washed-rinsed-distilled
water put in wet Ca.
full current on.

$$45 \int \frac{762}{4.05} / 16.9$$

$$\begin{aligned} \text{Total Amps} &= 762 \\ \text{hours} &= 45 \\ \text{Average Amps} &= 16.9 \end{aligned}$$

#8 Bath

Started July 13, 20 at 12 noon.

TIME	VOLTS	AMPS	TEMP.	TOTAL
12:00	116.5	9.5	17	85
12:05	116.5	9.5	17.5	83
12:10	116.5	9.5	18	85
12:15	116.5	9.5	18	85
12:20	116.5	9.5	16.5	85
12:25	116.5	9.5	17	85
12:30	116.5	9.5	17	80
12:35	116.5	9.5	17	80
12:40	116.5	9.5	17	80
12:45	116.5	9.5	17	85
12:50	116.5	9.5	17	84
12:55	116.5	9.5	17	83
1:00	116.5	9.5	17	83
1:05	116.5	9.5	16.5	84
1:10	116.5	9.5	16.5	84
1:15	116.5	9.5	17	83
1:20	117.5	9.5	16.5	80
1:25	116.5	9.5	17.0	80
1:30	116.5	9.5	17	80

$$45 \overline{) 762} \left(17. \right.$$

$$\underline{45}$$

$$315$$

#8 Bath

Sp. No.	Volt	Amps	Watts	Total
1165	9.5	17	80	407
1165	9.5	16.5	80	423
1165	9.5	17	80	440
1165	9.5	17.5	87	457
1165	9.5	17	85	474
1165	9.5	16.5	85	490
1165	9.5	16.5	85	507
1165	9.5	16.5	85	523
1165	9.5	17.5	85	540
1165	9.5	17.5	85	558
1165	9.5	17	83	575
1165	9.5	17	83	592
1165	9.5	17	83	609
July 15, 20				
1165	9.5	17	83	626
1165	9.5	17	83	643
1165	9.5	17	83	660
1165	9.5	17	81	677
1165	9.5	17	81	694
1165	9.5	17	81	711
1165	9.5	17	81	728
1165	9.5	17	81	745
1165	9.5	17	81	762

Cent



Total Amps = 660
hours = 36
Average Amps = 183

Started

[illegible]

$$\begin{array}{r}
 36) 660 \\
 \underline{360} \\
 300 \\
 \underline{288} \\
 120 \\
 \underline{120} \\
 0
 \end{array}
 \quad 18.3$$

#8 Bath.

Line	Gravel	Photo	Amph	Sample	Total
108	1165	9.5	18	88	448
111	1165	9.5	18	89	466
112	1165	9.5	18	89	484
July 17, 20					
141	1165	9.5	17.5	90	501
2	1165	9.5	17.5	90	519
3	1165	9.5	17.5	90	536
4	1165	9.5	17.5	90	554
5	1165	9.5	17.5	90	571
6	1165	9.5	17.5	90	589
7	1165	9.5	17.5	90	606
8	1165	9.5	17.5	90	624
9	1165	9.5	18	93	642
10	1165	9.5	18.5	93	660

Out



Rev. Geoth Minn then full current on.

Taken from No 2 Michel bath

8:00 P.M. July 17-20

Put in gas Bath. Try with full current on

After 10 min in H₂O bath shows
copper colour on disc.

Cracked on edge of mould
after 3 hours in folate.

	Volts	Amps	Watts	Total
17-20				
170	2.5	17.5	98	
170	2.5	17.5	98	17
170	2.5	18	90	35
170	2.5	18	89	53
170	2.5	18	92	71
170	2.5	19	92	90
170	2.5	19	92	109
170	2.5	19.5	92	129
170	2.5	18	92	147
170	2.5	18	92	165
170	2.5	17.5	90	182
170	2.5	17.5	90	200
170	2.5	17.5	90	217
170	2.5	17.5	90	235
170	2.5	17.5	90	253
170	2.5	17.5	90	270
170	2.5	17.5	90	288
170	2.5	18	92	306
170	2.5	18	92	324
170	2.5	18	92	342
170	2.5	19	94	361
170	2.5	19	94	380
170	2.5	19	94	399
170	2.5	19	94	418

42/736 17.5
 42/736
 376
 329.400
 Total Amps 736
 " hours 42
 Average Amps 17.5

Bath 8

July 18!

AM	Volts	Amps	Total
8	1170 9.5	18	94 436
9	1170 9.5	17.5	90 453
10	1170 9.5	17	90 470
11	1170 9.5	17	90 487
12	1170 9.5	17	90 504
July 19			
1	1170 9.5	17	90 521
2	1170 9.5	16	90 537
3	1170 9.5	16	90 554
4	1170 9.5	16	90 570
5	1170 9.5	16	90 587
6	1170 9.5	16.5	90 603
7	1170 9.5	16	90 620
8	1170 9.5	16	90 636
9	1170 9.5	16	90 653
10	1165 9.5	16	90 669
11	1165 9.5	17	94 685
12	1165 9.5	18	94 700
13	1165 9.5	18	94 718
14	1165 9.5	18	94 736

42.00 of Copper wire
 94.00 of Copper wire
 736

Out

Start of experiment numbers.

H-B Leppard.

F. B. Colman				COPPER BATHS								
TIME	STRAIN	WATER	QUANTITY	COPPER	1	2	3	4	5	6	7	8
10M	115	9.5	666 ⁽¹⁵⁾	1AB							132	158
10M	116	9.5	648 ^{14 1/2}	2AB							14	155
12	"	"	622 ^{14 1/2}	3AB							28	30
1230	"	"	720 ¹⁵	4AB								
"	"	"	"	5AB						15	42	46
"	"	"	"	6AB						15	56	62
"	"	"	"	7AB						30	70	79
"	"	"	"	8AB						48	84	96
"	"	"	"	9AB						68	98	114
"	"	"	"	10AB						78	112	132
"	"	"	"	11AB						86	126	150
										114	140	168
										132	154	186
										140	169	204
										151	183	222
										175	198	240
										192	213	258
										209	228	275
										226	243	292
										243	258	309
										261	273	326
										278	289	344
										294	305	361
										311	321	379
										328	338	395
										345	355	

70 1159
800
900
10

42) 6260 / 14.9
 4240
 7060
 7680
 308

COPPER BATHS												
Temp	Alt	Chl	Chl	Sp	Fe	1	3	4	5	6	7	8
	1170	9.5		1AB	✓						371	
	"	"		2AB	✓	3AB					388	435
	"	"		3AB	✓	349				4AB	406	451
	"	"		4AB	✓	366				362	423	471
	"	"		5AB	✓	381				379	444	
	"	"		6AB	✓	394				396	458	
	"	"		7AB	✓	411			8AB		414	476
				8AB	✓	427	9AB	346		432	477	513
				9AB	✓	441	398	387		452	502	
				10AB	✓	456	318	077		472	519	589
				11AB	✓	471	338	496		492	536	608
				12AB	✓	486	357	414		512	553	628
				13AB	✓	501	376	432		532	573	648
				14AB	✓	516	395	451		552	592	668
	1200	9.5		5AB	✓	532	415	470		570	612	688
		10		15AB	✓	547	435	490		586	630	700
				16AB	✓	563	454	509		602	648	718
				17AB	✓	579	473	528		618	666	736
						595	492	547		634	682	750
						602	495	550		641	690	758
						618	479	541		658	708	776
						626	472	534		667	718	786
						642	464	526		685	736	806
						658	485	547		702	753	823
						674	503	565		720	771	843
						690	524	586		738	790	860
						706	545	607		756	809	880
						722	566	628		774	828	900
						738	587	649		792	847	920
						754	608	670		810	865	940
						770	629	691		828	883	960
						786	650	712		846	901	980
						802	671	733		864	919	1000
						818	692	754		882	937	1020
						834	713	775		900	955	1040
						850	734	796		918	973	1060
						866	755	817		936	991	1080
						882	776	838		954	1009	1100
						898	797	859		972	1027	1120
						914	818	880		990	1045	1140
						930	839	901		1008	1063	1160
						946	860	922		1026	1081	1180
						962	881	943		1044	1099	1200
						978	902	964		1062	1117	1220
						994	923	985		1080	1135	1240
						1010	944	1006		1098	1153	1260
						1026	965	1027		1116	1171	1280
						1042	986	1048		1134	1189	1300
						1058	1007	1069		1152	1207	1320
						1074	1028	1090		1170	1225	1340
						1090	1049	1111		1188	1243	1360
						1106	1070	1132		1206	1261	1380
						1122	1091	1153		1224	1279	1400
						1138	1112	1174		1242	1297	1420
						1154	1133	1195		1260	1315	1440
						1170	1154	1216		1278	1333	1460
						1186	1175	1237		1296	1351	1480
						1202	1196	1258		1314	1369	1500
						1218	1217	1279		1332	1387	1520
						1234	1238	1300		1350	1405	1540
						1250	1259	1321		1368	1423	1560
						1266	1280	1342		1386	1441	1580
						1282	1301	1363		1404	1459	1600
						1298	1322	1384		1422	1477	1620
						1314	1343	1405		1440	1495	1640
						1330	1364	1426		1458	1513	1660
						1346	1385	1447		1476	1531	1680
						1362	1406	1468		1494	1549	1700
						1378	1427	1489		1512	1567	1720
						1394	1448	1510		1530	1585	1740
						1410	1469	1531		1548	1603	1760
						1426	1490	1552		1566	1621	1780
						1442	1511	1573		1584	1639	1800
						1458	1532	1594		1602	1657	1820
						1474	1553	1615		1620	1675	1840
						1490	1574	1636		1638	1693	1860
						1506	1595	1657		1656	1711	1880
						1522	1616	1678		1674	1729	1900
						1538	1637	1699		1692	1747	1920
						1554	1658	1720		1710	1765	1940
						1570	1679	1741		1728	1783	1960
						1586	1700	1762		1746	1801	1980
						1602	1721	1783		1764	1819	2000
						1618	1742	1804		1782	1837	2020
						1634	1763	1825		1800	1855	2040
						1650	1784	1846		1818	1873	2060
						1666	1805	1867		1836	1891	2080
						1682	1826	1888		1854	1909	2100
						1698	1847	1909		1872	1927	2120
						1714	1868	1930		1890	1945	2140
						1730	1889	1951		1908	1963	2160
						1746	1910	1972		1926	1981	2180
						1762	1931	1993		1944	2000	2200
						1778	1952	2014		1962	2017	2220
						1794	1973	2035		1980	2035	2240
						1810	1994	2056		1998	2053	2260
						1826	2015	2077		2016	2071	2280
						1842	2036	2098		2034	2089	2300
						1858	2057	2119		2052	2107	2320
						1874	2078	2140		2070	2125	2340
						1890	2099	2161		2088	2143	2360
						1906	2120	2182		2106	2161	2380
						1922	2141	2203		2124	2179	2400
						1938	2162	2224		2142	2197	2420
						1954	2183	2245		2160	2215	2440
						1970	2204	2266		2178	2233	2460
						1986	2225	2287		2196	2251	2480
						2002	2246	2308		2214	2269	2500
						2018	2267	2329		2232	2287	2520
						2034	2288	2350		2250	2305	2540
						2050	2309	2371		2268	2323	2560
						2066	2330	2392		2286	2341	2580
						2082	2351	2413		2304	2359	2600
						2098	2372	2434		2322	2377	2620
						2114	2393	2455		2340	2395	2640
						2130	2414	2476		2358	2413	2660
						2146	2435	2497		2376	2431	2680
						2162	2456	2518		2394	2449	2700
						2178	2477	2539		2412	2467	2720
						2194	2498	2560		2430	2485	2740
						2210	2519	2581		2448	2503	2760
						2226	2540	2602		2466	2521	2780
						2242	2561	2623		2484	2539	2800
						2258	2582	2644		2502	2557	2820
						2274	2603	2665		2520	2575	2840
						2290	2624	2686		2538	2593	2860
						2306	2645	2707		2556	2611	2880
						2322	2666	2728		2574	2629	2900
						2338	2687	2749		2592	2647	2920
						2354	2708	2770		2610	2665	2940
						2370	2729	2791		2628	2683	2960
						2386	2750	2812		2646	2701	2980
						2402	2771	2833		2664	2719	3000
						2418	2792	2854		2682	2737	3020
						2434	2813	2875		2700	2755	3040
						2450	2834	2896		2718	2773	3060
						2466	2855	2917		2736	2791	3080
						2482	2876	2938		2754	2809	3100
						2498	2897	2959		2772	2827	3120
						2514	2918	2980		2790	2845	3140
						2530	2939	3001		2808	2863	3160
						2546	2960	3022		2826	2881	3180
						2562	2981	3043		2844	2899	3200
						2578	3002	3064		2862	2917	3220
						2594	3023	3085		2880	2935	3240

at 1200 reading on West Edge

Thursday July 22, 20
added 1000 cc H₂SO₄
to Copper Baths

July 23 at 3-30 AM had
to shut down on account of
tube rusting. Lost considerable
amount of solution. Started
again at 4.55 AM.

W to P
at

Copper baths

TIME	SP	Volts	amp	Temp
11	70	10	17.5	86

TIME	SP	Volts	amp	Temp
4	1170	95	18	90
5	1175	95	18	85
6				
7				
8				
9				

TIME	SP	Volts	amp	Temp
11	70	10	17.5	86
12	52			
1	53			
2	53			
3	53			
4	54			
5	54			
6	63			
7	63			
8	63			
9	63			
10	63			
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July 22 Copper Butte Butte
20

both

#8
542

27

Thick Sgr Vols	Ampl	Term	Exp
12P/1170 9.5			80

12PM 1170 9.5

June

11

3

45 / 737 / 16.3

27

85
87

270

12

1205

22

July 23 3 PM. Out

659

678
679

69

710
720

731

put

Treated discs
Regular Process - Copper Bath
Heat, full current on

#7 Bath
Started July 21, @ 5 P.M.

#11 Rubber
normal

TIME	SP. RT.	TEMP	VOLT	AMP	TOTAL
5:00 PM	1170	83	10.	16	
6	"	86	"	17	16
7	"	86	"	18	34
8	"	84	"	17.5	51
9	"	84	"	17.5	64
10	"	84	"	17.5	86
11	"	82	"	18	104
12	"	82	"	17.5	122
AM					
1:00		82	"	17.5	139
2:00	"	80	"	18	155
3:00	"	80	"	18	173
4:00	"	80	"	18	191
5:00	"	80	"	18	209
6:00	"	82	"	18	227
7:00	"	82	"	18	245
8:00	"	82	"	18	263
9	"	82	"	17.5	282
10	"	82	"	17.5	300
11	"	85	"	17.5	317
12	"	83	"	17.5	335
1	"	85	"	17.5	352
2	"	"	"	17.5	370
3	"	"	"	17.5	387
4	"	90	9.5	18	405

Added 1000 cc
H₂SO₄ to Bath

change to 9.5 Volts

#7 Bath

#11 Rubber
Norwich

TIME	Pressure	TEMP.	Volt	Amp	TOTAL	
11:29	1175	85	9.5	17	422	Shut down field burnt out
3:00	1170	83	9.5	18	440	
M	July	23-	26			
00	1170	83	9.5	18	458	
00	1170	83	9.5	18	476	
00	1170	82	9.5	19	495	
00	1170	82	9.5	19	514	
00	1170	80	9.5	19	533	
00	1170	86	9.5	19	552	
00	1170	82	9.5	18	570	
00	1170	82	9.5	18	588	
00	1170	83	9.5	18	606	
00	"	85	"	19.5	625	cut out

$\frac{51625}{18}$
 $\frac{2865}{18}$
 $\frac{2865}{18}$
 $\frac{2865}{18}$

Total Amps 625
 hours 35
 Average Amps 18

213rd

Epp 7A-B

Scanted July 26 20-6 PM

Time	Spgr	TEMP	Photo	Onp	Total
6 PM	1170	86	10	17.5	
7	1170	86	"	17.5	17
8	"	84	"	17.5	35
9	"	84	"	17.5	52
10	"	84	"	17.5	70
11	"	82	"	17.5	88
12	"	82	"	18	96
July - 22 AM					
1:00	"	82	"	18	114
2	"	80	"	18	132
3	"	80	"	18	150
4	"	80	"	18	168
5	"	80	"	18	186
6	"	82	"	18	204
7	"	82	"	18	222
8	"	82	"	18	240
9	1175	83	"	17.5	257
10	"	85	"	17.5	275
11	1170	85	"	16.5	291
12	1170	83	"	16.5	308
1 PM	1170	85	10	16.5	324
2	1170	85	10	16.5	341
3	"	"	"	16.5	357
4	1170	90	7.5	17.5	375
5	1175	85	"	16.5	391

Added 1000.00

H₂SO₄ 1/2

bath

change to 9.5 Volt

2 Bath

Exp 7A-B.

July 22, 20

TIME	Sp. Rev	Temp	Volt	Amps	Total	Shut down Fuel blow out.
12:00	1170	83	9.5	17	4.05	
AM	July	23-20				
1:00	1170	83	9.5	17	1.25	
2:00	1170	83	9.5	17	4.42	
3:00	1170	82	9.5	17.5	1.25	
4:00	1170	82	9.5	17.5	1.25	
5:00	1170	80	9.5	17	1.25	
6:00	1170	80	9.5	17	1.25	
7:00	1170	82	9.5	16.5	527	
8:00	1170	82	9.5	16.5	544	
9	1170	83	9.5	16.5	560	
10	"	85	"	18	578	
11	"	82	"	24	602	
12	"	82	"	18.5	621	
1PM	"	83	"	19	640	
2	"	"	"	19	659	
3	"	"	"	18.5	677	End over

39) 677 (17.3
 $\frac{90}{287}$
 $\frac{223}{140}$

Total Amps 677
 " hours 39
 Average Amps 17.3

Treated disc
Net, full current on

6 Bath

12 Rubber
Marmah.

Started July 22 70 at 10 AM.

Time Spent Temp. Volts Amper Total

10 AM.	1175	85	16	17	
11	1170	85	"	17	17
12	1170	83	"	17	34
1 PM.	"	85	"	17	51
2	"	"	"	16.5	69
3	"	"	"	17	84
4	1170	90	9.5	20	104
5	1175	85	"	18.5	123

Change to 9.5 Volts

Filed Amper not
Shut down



12	1170	83	9.5	17	
1 PM.	1170	83	9.5	17	1
2	1170	83	9.5	17	2
3	1170	82	9.5	17.5	3
4	1170	82	9.5	17.5	4
5	1170	80	9.5	17	5
6	1170	80	9.5	17	6
7	1170	82	9.5	21	280
8	"	"	"	21	301
9	"	88	"	20	321

shut down again at 6-5
started 6-15.

395 / 758 04
395 / 3655 / 75

#6 Bath

#12 Rubber
varnish

Time	Sp. g.v.	Temp	Volt	Amp.	Total
10 AM	170	85	9.5	21	342
11	"	82	"	21	363
12	"	82	"	21	384
1 PM	"	82	"	22	406
2	"	"	"	21.5	427
3	1165	83	"	22	449
4	"	83	"	21.5	471
5	"	84	"	21.5	492
6	"	84	"	20	512
7	"	83	"	19	531
8	"	82	"	19	550
9	"	82	"	19	569
10	"	84	"	19	588
11	"	84	"	19	607
12	"	84	"	19	626
July 2, 20.	"	85	"	19	645
1100	"	84	"	19	664
200	"	82	"	18	682
300	"	82	"	18	700
400	"	80	"	18	718
500	"	80	"	18	736
600	"	80	"	17	753
700	"	80	"	17	758

1st time in

Quest

Inertial rise
Net, full current on.

#5 Bath

Started July 23 20 @ 11 AM.

Time	Sp. Gr.	Temp	Voltage	Amps	Total
11 AM	1170	83	10	19	19
12	"	83	"	19	38
1 PM	"	85	"	19	57
2	"	"	"	19	76
3	"	"	"	19	95
4	"	90	9.5	23	118
5	1175	85	"	21.5	139
6					
7					
8					
9					
10					
11					
12	1170	83	9.5	22	142
1 PM	1170	83	9.5	22	164
2	1170	83	9.5	22	186
3	1170	82	9.5	23	209
4	1170	82	9.5	23	232
5	1170	80	9.5	23	255
6	1170	80	9.5	23	278
7	1170	82	9.5	23	301
8	"	"	"	23	324
9	"	83	"	22	346
10	"	85	"	25	371

#13 Rubber Crush

Added 1000 cc
H₂O to
upper bath
Change to 9.5 Voltage
field must not
be shut down

$$\begin{array}{r}
 33 \overline{) 750} \quad 22.7 \\
 \underline{66} \\
 90 \\
 \underline{66} \\
 240 \\
 \underline{231} \\
 9
 \end{array}$$

#5 Bath

#13 Rubber
Garnish

TIME	SP	TEMP	VOLTS	AMP	TOTAL
1 PM	1170	82	9.5	24	395
2	"	"	"	24	419
1 PM	"	"	"	25	444
2	"	"	"	25	469
3	1165	83	"	25	494
4	"	"	"	24	518
5	"	84	"	24.5	542
6	"	84	"	24	566
7	"	83	"	23.5	589
8	"	82	"	23.5	613
9	"	82	"	23.5	635
10	"	84	"	23.5	659
11	"	84	"	23.5	682
12	"	84	"	23.5	706
1 PM	"	85	"	23.5	729
200	"	84	"	21	750
300	"	"	"	"	"

1st time in.

cut

#4 Bath

July 22, 20 at 11 AM

Time	Sp. Gr.	Temp.	Volts	Amperes	Totals
11 AM	1170	85	10	20	
12	"	83	"	20	20
1 PM	"	85	"	20	40
2	"	"	"	20	60
3	"	"	"	21	71
4	"	90	9.5	18.5	89
5	1175	85	"	20	109
6					
7					
8					
9					
10					
11					
12					
1 PM	1170	83	9.5	19	128
2 PM	1170	83	9.5	19	147
3	1170	83	9.5	19	166
4	1170	82	9.5	20	186
5	1170	82	9.5	20	206
6	1170	80	9.5	21	227
7	1170	80	9.5	21	248
8	"	82	"	21	269
9	"	82	"	21	290
10	"	83	"	21	311
11	"	85	"	20	331

#10 Rubber

remains
2nd time in



100 cc #2504 added at noon

Change to 9.5 Volts

Field short out shut down.

395 / 7472 / 18.9
 200
 5260
 3585

#4 Bath

#10 Rubber
varnish

TIME	Sp. R.	TEMP	Volts	Amps	Total	351
11 AM	1170	82	9.5	21	352	
12	"	"	"	21	373	
1 PM	"	"	"	21	394	
2	"	"	"	19	413	
3	1165	83	"	18.5	431	
4	"	"	"	18.1	450	
5	"	84	"	20	470	
6	"	84	"	20	490	
7	"	83	"	19	509	
8	"	82	"	19	528	
9	"	82	"	18	546	
10	"	84	"	17.5	563	
11	"	84	"	17.5	581	
12	"	84	"	17.5	598	
July 24						
1 PM	"	85	"	18	616	
2	"	84	"	18	634	
3	"	82	"	17	651	
4	"	82	"	19	668	
5	"	80	"	17	685	
6	"	80	"	17	702	
7	"	80	"	18	720	
8	"	80	"	18	738	
9	"	"	"	18	747	

ing time in bath

✓
 latent

#3 Bath

cont July 22, 20 at 3 PM.

TIME	Temp	Volt	Amp	Temp
3 PM	1170	85	10	19
4	1170	90	9.5	19
5	1175	85	"	21.5
6	1175	"	"	21.5
1200	1170	83	9.5	21
1 PM	1170	83	9.5	21
200	1170	83	9.5	22
300	1170	82	9.5	23
400	1170	82	9.5	23
500	1170	80	9.5	23
600	1170	80	9.5	23
700	1170	82	9.5	22
800	1170	82	"	22
9	"	83	"	22
10	"	85	"	25
11	"	82	"	24
12	"	"	"	24
1 PM	"	"	"	24
2	"	"	"	23
3	1165	83	"	23.5
4	"	"	"	22
5	"	84	"	23.5
6	"	84	"	22

#14 Rabbit, Cornish

Changed to 9.5 V

$$\begin{array}{r} 375 \\ \times 292 \\ \hline 710 \\ 820 \\ \hline 710 \\ 10 \end{array}$$

#3 Bath

#14 Rubber
Pamish

TIME	Sp. H ₂ O	TEMP	Volts	Amper	Total
7 PM	114	83	9.5	22	517
8	"	82	"	22	539
9	"	82	"	22	561
10	"	84	"	22.5	583
11	"	84	"	22.5	606
12	"	84	"	22.5	628
1.00	July	85	24	23	651
2.00	"	84	"	22	673
3.00	"	82	"	23	696
4.00	"	82	"	23	719
5.00	"	80	"	21	740
6.00	"	80	"	21	761
7.00	"	80	"	21	782
8.00	"	80	"	21	792

1st time in Bath.
 Put out
 N.G.
 for many books

#7

July 27, 20

Bath

ost 1030

Rubber
varnish

#17.

TIME	TEMP	Volts	Ohms	Watts
12:30 PM	1170	85	9.5	19.5
1:30	"	82	"	19
2:30	"	82	"	19
3:30 PM	"	"	"	19
4:30	"	"	"	19
5:30	1165	83	"	20
6:30	"	"	"	20.5
7:30	"	84	"	21
8:30	"	83	"	19.5
9:30	"	82	"	19
10:30	"	82	"	18
11:30	"	84	"	17.5
12:30	"	84	"	17.5
1:30	"	84	"	17.5
2:30	"	85	"	18
3:30	"	84	"	17
4:30	"	82	"	17.5
5:30	"	82	"	17.5
6:30	"	80	"	17.5
7:30	"	80	"	17.5
8:30	"	80	"	16
9:30	"	80	"	16
10:30	"	78	"	16.5

Looks best carout
just glassy surface

7 Bath

Rubber Damish

#17

TIME	Sp	Sw	TEMP	Volts	Ampe	Intal	98
10:44 AM	1170	80	9.5	16	434		
11	1170	"	"	16.5	451		
12	"	"	"	17	468		
1 PM	11	"	"	17.5	485		
2	"	"	"	17	502		
3	"	"	"	17.5	520		
4	1168	84	9.5	17.5	537		
5	"	"	"	17	554		
6	"	"	"	17	571		
7	"	"	"	17	588		
8	"	80	"	17	605		
9	"	80	"	16.5	621		
10	"	80	"	16.5	638		
11	"	80	"	16.5	654		
12	1170	80	"	16.5	670		
1 PM	2520	80	"	17.5	688		
2	"	80	"	17.5	705		
3	"	81	"	17.5	722		
4	"	81	"	17	739		
5	"	81	"	17	756		

1st time in

621
643Note lug loosened from
mold. (17)

#2 Bath

Started July 23, 20, 3 P.M.

TIME	SPARK	TEMP	VOLTS	CURR	Notes
3 P.M.	1165	83	9.5	18.5	
4	"	"	"	18.5	19
5	"	84	"	17.5	36
6	"	"	"	17.5	53
7	"	83	"	17.5	71
8	"	80	"	17	87
9	"	82	"	17	104
10	"	84	"	17	121
11	"	84	"	17	138
12	"	84	"	17	155

July 24, 30.

100	"	85	"	17	172
200	"	84	"	16	188
300	"	82	"	16	204
400	"	82	"	16	220
500	"	80	"	16	236
600	"	80	"	16	252
700	"	80	"	15	267
800	"	80	"	15	282
900	1170	"	"	15.5	297
1000	"	"	"	15.5	303
1100	"	"	"	16	319
1200	"	"	"	15.5	334
1300	"	"	"	16	350
1400	"	"	"	16.5	367

Rubber Carinish

#15

Noticed explosion
Monitored a 3-30

Note: Knobs on rubber
veg. identified. Removed
by blades. Then error
noted for a stripper
while working.

47/247/15.9
247
234
13
423

#2 Bath

Rubber Barkish
#15

TIME	Sp. Sw.	TEMP.	Volts	Amperes	Total
3	1170	80	9.5	16	383
4	1165	84	9.5	16	399
5	"	"	"	16	418
6	"	"	"	16	431
7	"	"	"	16	447
8	"	80	"	16	464
9	"	80	"	16	479
10	"	80	"	16	495
11	"	80	"	16	511
12	"	80	"	16	527
13	1170	80	"	16	543
14	"	80	"	15	558
15	"	81	"	15	573
16	"	81	"	15	588
17	"	82	"	15	603
18	"	82	"	15	618
19	"	82	"	15	633
20	"	81	"	15	648
21	"	81	"	16	664
22	"	"	"	16	680
23	"	"	"	16	696
24	1165	"	"	17	713
25	"	"	"	17	730
26	"	"	"	17	747

1st time in.

533

See your account for history of
your present work.

8 Bath.

Rubber Varnish

July 23, 20. at 3 P.M.

#16

TIME	Barom	TEMP	Volts	Amps	Total
5 PM	1165	83	9.5	18.5	
5	"	"	"	18.5	18
5	"	84	"	17.5	36
6	"	84	"	17.5	53
7	"	83	"	17.5	70
8	"	82	"	17	87
9	"	82	"	17	104
10	"	84	"	16.5	120
11	"	84	"	16.5	137
12	"	84	"	16.5	153
July 23, 20					
1 PM		85	"	16.5	170
200	"	84	"	16	186
300	"	82	"	16	202
400	"	82	"	16	218
500	"	80	"	16	234
600	"	80	"	16	250
700	"	80	"	15.5	265
800	"	80	"	15.5	281
9	1170	"	"	16	297
10	"	"	"	16	303
11	"	"	"	16	319
12	"	"	"	16.5	335
1	"	"	"	17	352
2	"	"	"	16.5	368

47/758
 145.0
 282
 282/50
 16.1

8 Bath

Rubber varnish
 #16

TIME	Spd	TEMP	Volt	amp	total
3	1170	80	9.5	17	385
4	1165	84	9.5	16.5	401
5	"	"	"	16.5	418
6	"	"	"	16.5	434
7	"	"	"	16.5	450
8	"	80	"	16.5	467
9	"	80	"	16.5	483
10	"	80	"	16.5	500
11	"	80	"	16.5	516
12	1140	80	"	16.5	533
13	1120	80	"	16.5	549
14	"	86	"	16	565
15	"	86	"	15.5	581
16	"	81	"	15.5	596
17	"	82	"	15.5	612
18	"	82	"	15.5	627
19	"	82	"	15.5	643
20	"	81	"	15	658
21	"	"	"	16.5	674
22	"	"	"	16	690
23	"	"	"	17	707
24	1165	"	"	16.5	724
25	"	"	"	17	741
26	"	"	"	17	758

1st time in

out

July 26

Shut Down 5-15 AM until
5 45 AM. Had to clean
brushes on motor. Brushes were
covered with oil.

Stopped 6.45 for ten min:
Shaft was loose.

#4 Bath

started July 24, 20. at 11 AM.

TIME	Sp. Air	TEMP.	Vdts	Comp	Total
1 AM	1170	80	9.5	17	
2	"	"	"	16.5	16.
3	"	80	9.5	16	32
4	"	"	9.5	18	50
5	"	"	9.5	19	69
6	1165	84	9.5	19	88
7	1165	"	9.5	19	107
8	"	"	"	19	126
9	"	"	"	19	145
10	"	80	"	19	164
11	"	80	"	18	182
12	"	80	"	18	200
1	"	80	"	18	
2	1170	80	"	15	
3	"	80	"	16	
4	"	81	"	15	
5	"	81	"	15	
6	"	82	"	15	315
7	"	82	"	15	330
8	"	81	"	15	345
9	"	"	"	15	360
10	"	"	"	15	375

Rubber varnish.

#10 -

3rd time in

$$\begin{array}{r} 46 \overline{) 734} \\ \underline{460} \\ 274 \\ \underline{270} \\ 4 \end{array}$$

#4 Bath

Rubber damish

TIME	SP	TEMP	VOLTS	AMPS	TOTAL
11	1170	81	95	15	704
12	1165	"	"	16	720
13	"	"	"	16	736
14	"	"	"	16	752
15	"	"	"	16	768
16	"	"	"	15	783
17	"	"	"	15	798
18	"	"	"	15	813
19	"	"	"	15	828
20	"	"	"	15	843
21	"	"	"	15	858
22	"	"	"	15	873
23	"	"	"	15	888
24	"	"	"	16	904
25	"	83	"	16	920
26	"	83	"	16	936
27	"	81	"	17	953
28	"	81	"	17	970
29	"	"	"	16	986
30	1165	82	"	15	701
31	"	83	"	165	717
32	"	83	"	165	734

#10

2nd time in

3rd time in

Out

#6 Bath

Rubberbarich

July 24, 20, at 11 AM.

#12

TIME	Sp. In	Temp	Volts	Amp	Total
11:41	1170	80	9.5	16	18
12	"	"	"	18	37
1 PM	"	"	"	19	55
2	"	"	"	18.5	74
3	"	"	"	18.5	92
4	1165	84	"	18	110
5	"	"	"	18	126
6	"	"	"	18	144
7	"	"	"	18	162
8	"	80	"	18	180
9	"	80	"	18	198
10	"	80	"	18	216
11	"	80	"	18	234
12	1140	80	"	18	252
July 25, 20	0	80	"	18	270
1 PM	"	80	"	17.5	287
2	"	81	"	17.5	305
3	"	81	"	17.5	322
4	"	82	"	17.5	340
5	"	82	"	17.5	357
6	"	82	"	17	374
7	"	81	"	17	391
8	"	"	"	17	408
9	"	"	"	"	"
10	"	"	"	"	"

2nd time in

42 / 58
 7.4 2.6
 3.3 3.3
 3.3 3.3
 3.3 3.3

#6 Bath

Rubber Danish
 #12

Time	g. Bul	Temp	V ₀ 9.5	amps	Inter
11	(11)	81	"	19	457
12	"	"	"	18.5	445
13	"	"	"	18.5	464
2	"	"	"	18.5	482
3	"	"	"	18.5	501
4	"	"	"	18.5	519
5	"	"	"	18.5	538
6	"	"	"	18.5	558
7	"	"	"	28	574
8	"	"	"	18	592
9	"	"	"	18	610
10	"	"	"	18	628
11	"	"	"	18	646
12	"	"	"	18	664
1	"	"	"	19	683
2	"	"	"	19	702
3	"	83	"	19	721
4	"	83	"	19	740
5	"	81	"	18	758
6	"	"	"	"	"
7	"	"	"	"	"
8	"	"	"	"	"
9	"	"	"	"	"
10	"	"	"	"	"

July 26

2nd finish

2nd time in

Out

Out

5 Bath

Started July 24 20.

Rubber Damish.

#13

TIME	SP. ST.	TEMP	Volts	amps	Initial	Second time
1 AM	1170	80	9.5	19		
2	"	"	"	21	21	
3	1165	84	"	21	72	
4	"	"	"	22	54	
5	"	"	"	22	86	
6	"	"	"	21.5	57	
7	"	"	"	21	58	
8	"	"	"	21.5	50	
9	"	"	"	21	171	
10	"	80	"	21.5	198	
11	"	80	"	21	214	
12	"	80	"	21	235	
1 AM	1170	80	"	21		
2	"	80	"	21		
3	"	81	"	22		
4	"	81	"	22		
5	"	82	"	22		
6	"	82	"	22		
7	"	81	"	22		
8	"	81	"	24	523	
9	"	81	"	24	547	

31) 747 / 124

#5 Bath

TIME	Sp. in	TEMP	VOLTS	Amper	Total
11	1150	81	95	25	572
12	1168	"	"	25	597
1 PM	"	"	"	25	622
2	"	"	"	25	647
3	"	"	"	25	672
4	"	"	"	25	697
5	"	"	"	25	722
6	"	"	"	25	747
7	"	"	"	25	

Rubber Dammed
#13

2nd time 11

$$\begin{array}{r}
 47) 744 / 15.8 \\
 \underline{274} \\
 274 \\
 \underline{335} \\
 390 \\
 \underline{331} \\
 59
 \end{array}$$

8 Path

16 Rubber
2nd ~~transverse~~
line

Line	Sp	Volts	Temp	Temp	Total
1	1170	9.5	80	16	354
5	"	"	"	16	400
6	"	"	"	16	416
7	"	"	"	16	432
8	"	"	"	16.5	448
9	"	"	"	16.5	465
10	"	"	"	16.5	481
11	"	"	"	16.5	498
12	1190	"	"	16.5	514
13	2320	"	"	16.5	531
14	"	"	"	16.5	547
15	"	"	83	16	563
16	"	"	83	16	579
17	"	"	"	16	595
18	"	"	"	16	611
19	"	"	"	16	627
20	"	"	"	16	643
21	"	"	"	16	659
22	"	"	"	16	675
23	"	"	"	16	691
24	"	"	"	16	707
25	"	"	"	16	723
26	"	"	"	16	739
27	"	"	"	16	755

Knots to length
before 3rd and 4th line
Out

5 Bath Rubber
 Started July 25 - 6 PM
 varnish #13

Time	Run	With	Imps	Imps	Total
6 PM	1165	9-5	86	21	
7	"	"	"	21	21
8	"	"	"	21	42
9	"	"	"	21	63
10	"	"	"	21	84
11	"	"	"	21	105
12	"	"	"	21	126
July 26					
10	"	"	"	22	148
100	"	"	"	22	170
101	"	"	83	22	192
102	"	"	83	21	213
104	"	"	81	21	234
106	"	"	81	21	255
100	"	"	"	21	276
101	"	"	82	21	297
102	"	"	83	22	319
103	"	"	83	22	341
11	"	"	"	22	363
12	"	"	80	22	385
1	1170	"	"	22	407
2	"	"	"	22	429
3	"	"	"	22	451
4	"	"	"	22	473
5	"	"	"	22	495

2nd time in

$$\begin{array}{r} 38 \\ 26 \\ \hline 12 \\ 96 \\ \hline 150 \\ 22.4 \end{array}$$

#5 Bath Rubberdamish

#13

2nd time

WES	St	Do	TEMP	Wt	Time	Total
1	"	1170	80	9.5	22.5	517
2	"	"	"	"	22.5	542
3	"	"	"	"	22.5	567
4	"	"	"	"	22.5	592
5	"	"	"	"	22.5	617
6	"	"	"	"	23	640
7	"	"	"	"	23	663
8	"	1170	"	"	23	686
9	"	27.20	"	"	22.5	719
10	"	"	83	"	22.5	744
11	"	"	83	"	22.5	764
12	"	"	"	"	22.5	786
13	"	"	"	"	21.5	808
14	"	"	"	"	21.5	829
15	"	"	"	"	21.5	851

~~Cut out~~

3rd time in
cut

#6 Bath

Rubber Darnish

#12

July 26, 20					12 AM	
TIME	SP	TEMP	VOLTS	Amps	Total	
1	116.5	80	9.5	18.5		
2	"	80	"	18.5	18	
3	"	"	"	18.5	36	
4	"	"	"	18.5	55	
5	"	"	"	18.5	73	
6	"	"	"	18.5	92	
7	"	"	"	18.5	110	
8	"	"	"	19	129	
9	"	"	"	19.5	148	
10	"	"	"	19.5	168	
11	"	"	"	19.5	187	
12	117.0	"	"	18.5		
July 27, 20.						
1	"	"	"	18.5	18	
2	"	83	"	18	36	
3	"	83	"	18	55	
4	"	"	"	18	73	
5	"	"	"	18	92	
6	"	"	"	18	110	
7	"	"	"	18	129	
8	"	"	"	18	148	
9	"	"	"	18	168	
10	"	"	"	18	187	
11	"	"	"	19		

32 time in
was recasted
before put in
bath.

$$\begin{array}{r}
 44 \overline{) 815.2} \\
 \underline{44} \\
 375 \\
 \underline{330} \\
 450 \\
 \underline{440} \\
 100 \\
 \underline{88} \\
 20 \\
 \underline{22} \\
 0
 \end{array}
 \quad 18.5$$

#6 Bath

Rubber Danish

#12

Sp	Pa	Temp	Volts	amps	Feet	3rd time in
1	1170	80	90	19	93.3	was rechecked
2	"	"	"	18	461	before put in bath
3	"	"	"	19	480	
4	1165	82	"	19	499	
5	"	"	"	19	518	
6	"	"	"	19	537	
7	"	"	"	19	556	
8	"	"	"	19	575	
9	"	"	"	19		
10	"	83	"	19	18.5	
11	"	"	"	19	18.5	
12	1170	"	"	19		
July 28, 20.						
1	"	"	"	17		
2	"	10	"	17		
3	"	"	"	17		
4	"	"	"	17		
5	"	"	"	17		
6	"	80	"	17		
7	"	"	"	17		
8	"	"	"	17	815	Out

#4 Bath					Rubber Damish #10	
at 12 AM					4 th time in	
TIME	Temp	Volts	Amper	Feet	how far taken off and recasted	
1 AM	80	9.5	16.5	16		
2	"	"	16.5	31		
3	"	"	16.5	47		
4	"	"	16.5	64		
5	"	"	17	81		
6	"	"	17	98		
7	"	"	16.5	114		
8	"	"	16	130		
9	"	"	16	146		
10	"	"	16	162		
11	"	"	17	179		
12	170	"	17	196		
July 27, 20						
1 AM	"	"	17	216		
2	83	"	17	233		
3	83	"	17	250		
4	"	"	17	267		
5	"	"	17	284		
6	"	"	16	300		
7	"	"	16	316		
8	"	"	16	332		
9	"	"	16.5	348		
10	"	"	16.5	365		
11	"	"	17	382		

$$\begin{array}{r}
 46 / 753 \div 16.3 \\
 \underline{45} \times \\
 293 \\
 \underline{296} \\
 1708 \\
 \underline{138} \\
 1570
 \end{array}$$

#4 Bath

Time	Sp. Gr.	Temp	Volts	Amps	Watt
1	1170	80	9.5	17	165
2	"	"	"	16.5	405
3	"	"	"	17	422
4	"	"	"	17.5	440
5	1165	80	"	17	457
6	"	"	"	17	476
7	"	"	"	17	491
8	"	"	"	17	508
9	"	"	"	17	525
10	"	80	"	16	542
11	"	"	"	16	559
12	1170	"	"	16	576
13	1170	"	"	16	593
14	"	"	"	16	610
15	"	"	"	16	627
16	"	80	"	17.5	644
17	"	"	"	17.5	661
18	"	"	"	17.5	678
19	"	78	"	15.5	722
20	"	"	"	15.5	738
21	"	"	"	15.5	753

Rubber Varnish

#10

with time in
Rubber taken
off and recast

Out

#3 Bath

Rubberdamish

#18

Started July 26 20 at 4 PM.

TIME	Sp	Ramp	Volts	Amper	Total
4 PM	1170	80	95	22	
5	"	"	"	22	22
6	"	"	"	22	44
7	"	"	"	22	66
8	"	"	"	23	89
9	"	"	"	23	112
10	"	"	"	23	135
11	"	"	"	23	158
12	"	"	"	23	181
1 PM	2220				
2	"	83	"	23	
3	"	83	"	23	
4	"	"	"	23	
5	"	"	"	23	204
6	"	"	"	23	227
7	"	"	"	23	250
8	"	"	"	23	273
9	"	"	"	23	296
10	"	"	"	23	319
11	"	"	"	23.5	342
12	"	"	"	23.5	365
1 PM	"	"	"	23	388
2	"	"	"	23	411
3	"	"	"	23	434
4	"	"	"	23	457
5	"	"	"	23	480
6	"	"	"	23	503
7	"	"	"	23	526

1st time in
Start of mouse and dog

#3 Bath

Rubber Varnish

#18

DATE	Sp. Don	Temp	Wells	amp	total
1	11/15	8.2	9.5	23	550
5	"	"	"	23	573
6	"	"	"	22	595
7	"	"	"	22	617
8	"	"	"	22	639
9	"	"	"	22	661
10	"	"	"	23	684
11	"	8.3	"	23	707
12	11/20	"	"	23	730
13	12/28	"	"	23	753
14	"	"	"	23	776
15	"	"	"	23	799
16	"	"	"	23	822
17	"	"	"	23	845
18	"	"	"	23	868
19	"	8.0	"	23	891
20	"	"	"	23	914
21	"	"	"	23	937
22	"	"	"	23	960
23	"	"	"	23	983
24	"	"	"	23	1006
25	"	"	"	23	1029
26	"	"	"	23	1052
27	"	"	"	23	1075
28	"	"	"	23	1098
29	"	"	"	23	1121
30	"	"	"	23	1144
31	"	"	"	23	1167
32	"	"	"	23	1190
33	"	"	"	23	1213
34	"	"	"	23	1236
35	"	"	"	23	1259
36	"	"	"	23	1282
37	"	"	"	23	1305
38	"	"	"	23	1328
39	"	"	"	23	1351
40	"	"	"	23	1374
41	"	"	"	23	1397
42	"	"	"	23	1420
43	"	"	"	23	1443
44	"	"	"	23	1466
45	"	"	"	23	1489
46	"	"	"	23	1512
47	"	"	"	23	1535
48	"	"	"	23	1558
49	"	"	"	23	1581
50	"	"	"	23	1604
51	"	"	"	23	1627
52	"	"	"	23	1650
53	"	"	"	23	1673
54	"	"	"	23	1696
55	"	"	"	23	1719
56	"	"	"	23	1742
57	"	"	"	23	1765
58	"	"	"	23	1788
59	"	"	"	23	1811
60	"	"	"	23	1834
61	"	"	"	23	1857
62	"	"	"	23	1880
63	"	"	"	23	1903
64	"	"	"	23	1926
65	"	"	"	23	1949
66	"	"	"	23	1972
67	"	"	"	23	1995
68	"	"	"	23	2018
69	"	"	"	23	2041
70	"	"	"	23	2064
71	"	"	"	23	2087
72	"	"	"	23	2110
73	"	"	"	23	2133
74	"	"	"	23	2156
75	"	"	"	23	2179
76	"	"	"	23	2202
77	"	"	"	23	2225
78	"	"	"	23	2248
79	"	"	"	23	2271
80	"	"	"	23	2294
81	"	"	"	23	2317
82	"	"	"	23	2340

1st June 1872

Out

#7 Bath

Start July 26th 20.

5:00 PM 1170

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 \end{array}$$

#7 Bath.

Rubber Dressings

#17

July 22	Temp.	Volts	Amperes	Temp.
5:14	11.65	8.5	16	432
6	"	"	16	457
7	"	"	19	470
8	"	"	19	489
9	"	"	19	478
10	"	8.3	18	516
11	"	8.3	18	534
12	11.70	"	17.5	551
July 27, 20	"	"	17.5	569
1:14	"	"	17.5	536
2	"	"	17.5	664
3	"	"	17.5	681
4	"	"	17.5	637
5	"	8.0	18	654
6	"	"	18	645
7	"	"	18	693
8	"	7.8	17	710
9	"	"	17	727
10	"	"	17	744
11	"	"	17	761
12	"	"	"	"

2 1/2 hrs in

Cont

#2 Bath
Started July 26, 10 at 6 PM.

Rubber Varnish

#19

TIME	Sp. 89	Inch	Volts	Temp	Total
6 PM	1170	80	9.5	165	
7	"	"	"	17	33
8	"	"	"	18	51
9	"	"	"	18	69
10	"	"	"	18	87
11	"	"	"	18	105
12	"	"	"	18	123
July 27, 20.					
1 PM	"	"	"	18	141
2	"	83	"	17.5	158
3	"	83	"	17.5	175
4	"	"	"	17.5	193
5	"	"	"	17	210
6	"	"	"	17	228
7	"	"	"	17	245
8	"	"	"	17.5	262
9	"	"	"	17.5	279
10	"	"	"	17.5	297
11	"	"	"	17	314
12	"	"	"	17	331
1 PM	"	"	"	17	348
2	"	"	"	17	365
3	"	"	"	17	382
4	"	1165	"	17.5	399
5	"	82	"	17.5	417

1st time in
Edge of rise
worked with
rubber

43) 757 / 17.3
 4300
 317
 34X
 160
 129
 31

2 Bath

Rubber damish

#19

July 27	Sp. No.	Temp	Volts	Amps	Total	1st time in
6 PM	1165	82	9.5	18	435	Edge of disc
7	"	"	"	18	453	with rubber
8	"	"	9	18	471	
9	"	"	"	17	489	
10	"	"	"	17	506	
11	"	83	"	18	524	
12	1170	"	"	16	540	
1 PM	2120	"	"	16	556	
2	"	"	"	16	572	
3	"	"	"	16	588	
4	"	"	"	16	604	
5	"	"	"	16	620	
6	"	80	"	15.5	636	
7	"	"	"	15.5	652	
8	"	"	"	15.5	667	
9	"	"	"	15	682	
10	"	"	"	16	698	
11	"	"	"	16	714	
12	"	"	"	16.5	730	
1 PM	"	"	"	16.5	747	

Out

8 Bath

starting July 28, 20 at 19 AM

TIME Sp. in Bath Volts - amps - ft. sec.

10 AM 1170 98 95 16

11 " " " 17 17

12 " " 80 " 16 33

1 PM " " " 16 49

2 " " " 16 65

3 " " " 15.5 80

4 " " 82 " 15.5 96

5 " " " 15.5 111

6 " " " 16 127

7 " " " 16 143

8 " " " 16 159

9 " " " 16 175

10 " " 83 16 191

11 " " " 16 207

12 " " " 16 223

July 29, 20.

1 AM 80 " 16 239

2 " " " 16 255

3 " " " 16 271

4 " " " 16 287

5 " " " 15 303

6 " " " 15 319

7 " " " 14.5 335

8 " " " 14.5 351

9 " " " 14.5 367

16

Rubber
Tarnish.3rd time
in. lowke used
taken off and
recoated.added the
mixture of dist.
water

~~Added one gallon~~

July 30, 20

Added one gallon of dist. water
at 2 o'clock.

44) 713/151
147x
263
265/80

8 Bath

Rubber Damish

#16

TIME	Sp	In	Temp	Vit	Am	Stat
10 AM	1170	80	95	14.5	374	
11	"	"	"	15	389	
12	"	"	"	14.5	404	
1 PM	"	"	"	14.5	418	
2	"	"	"	14.5	433	
3	"	"	"	14.5	447	
4	"	82	9.5	14	461	
5	"	82	9.5	14	475	
6	"	"	"	14.5	489	
7	"	"	"	14.5	504	
8	"	"	9.5	14.5	518	
9	"	"	"	14.5	533	
10	"	"	"	14.0	547	
11	"	"	"	14.5	562	
12	"	"	"	14.5	576	
July 30, 20						
1 AM	1170	80	"	14.5	591	
2	"	"	"	14.5	605	
3	"	40	"	15	620	
4	"	"	"	15	635	
5	"	"	"	15	650	
6	"	"	9	15	665	
7	"	"	"	16	681	
8	"	"	"	16	697	
9	"	"	"	16	713	

Out

#6 Bath

Rubber Barnick

start July 28, 2 PM

#12

TIME	Sp	TEMP	Vols	Comp	Total
2 PM	116	80	9.5	17	17
3	"	"	"	17	34
4	"	82	"	17	51
5	"	"	"	17	68
6	"	"	"	17	85
7	"	"	"	17	102
8	"	"	"	17	119
9	"	"	"	17	136
10	"	83	"	17	153
11	"	"	"	17	170
12	"	"	"	17	187
1 PM	117	80	9.5	16	196
2	"	"	"	16	212
3	"	"	"	16	228
4	"	"	"	16	244
5	"	"	"	16	260
6	"	"	"	16	276
7	"	"	"	16.5	292
8	"	"	"	16.5	309
9	1170	80	9.5	16	325
10	"	"	"	16	341
11	"	"	"	15.5	356
12	"	"	"	15.5	372
1 PM	"	"	"	15.5	387

Recorded and
time fourth
time in bath
except left
few hrs on
when recorded

477680 / 163

#5 Butte

Rubber Damish

#20

started July 28 20 at 3 P.M.

TIME	Salinity	Temp	W. Temp	W. Temp	Wind
1	1170	80	9.5	20.5	20
2	"	82	"	20.5	41
3	"	"	"	20.5	61
4	"	"	"	21	82
5	"	"	"	21	103
6	"	"	"	21	124
7	"	83	"	21	145
8	"	"	"	21	166
9	"	"	"	21	187
10	"	"	"	21	197
11	"	"	"	21	197
12	"	"	"	21	197
13	"	"	"	21	197
14	"	"	"	21	197
15	"	"	"	21	197
16	"	"	"	21	197
17	"	"	"	21	197
18	"	"	"	21	197
19	"	"	"	21	197
20	"	"	"	21	197
21	"	"	"	21	197
22	"	"	"	21	197
23	"	"	"	21	197
24	"	"	"	21	197
25	"	"	"	21	197
26	"	"	"	21	197
27	"	"	"	21	197
28	"	"	"	21	197
29	"	"	"	21	197
30	"	"	"	21	197
31	"	"	"	21	197
32	"	"	"	21	197
33	"	"	"	21	197
34	"	"	"	21	197
35	"	"	"	21	197
36	"	"	"	21	197
37	"	"	"	21	197
38	"	"	"	21	197
39	"	"	"	21	197
40	"	"	"	21	197
41	"	"	"	21	197
42	"	"	"	21	197
43	"	"	"	21	197
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45	"	"	"	21	197
46	"	"	"	21	197
47	"	"	"	21	197
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100	"	"	"	21	197

 Sides appeared
 2-30 AM,

$$41) 817 \times (19.9) \\ \underline{407} \\ 410 \\ \underline{368} \\ 380$$

#5 Bath

Rubberthornish
#20.

Time	Sp. Rev.	Temp	Volts	Amps	Total
July 29, 11:20	80	9.5	19.5	461	
5	"	82	9	19	480
5	"	"	9.5	19	499
6	"	83	"	19.5	518
7	"	"	"	19.5	538
8	"	"	"	19.5	557
9	"	"	"	19.5	576
10	"	"	"	19.5	596
11	"	"	"	19.5	615
12	"	"	"	19.5	635
July 30					
100	"	"	"	19.5	
200	"	"	"	19.5	
300	"	80	"	19.5	
400	"	"	"	19.5	
500	"	"	"		
600	"	"	9	22	
700	"	"	"	22	
800	"	"	"	22	
9	"	"	9	21	817
10	"	"	9.5		
11	"	"	"		
12	"	"	"		
1M	"	"	"		

Cont

#4 Bath
Started July 29. 20.

Rubber Marinski
#10

TIME	Sp. Dr.	Temp	Volts	Amps	Total
5:00	1170	80	9.5	15.5	
5:10	"	82	"	15.5	15
5:20	"	"	"	15.5	31
5:30	"	"	"	15.5	46
5:40	"	"	"	15.5	62
5:50	"	"	"	15.5	77
6:00	"	"	"	15.5	93
6:10	"	83	"	15.5	108
6:20	"	"	"	15.5	124
6:30	1140	"	"	15.5	139
6:40	"	80	"	15	154
6:50	"	"	"	15	169
7:00	"	"	"	15	184
7:10	"	"	"	15	199
7:20	"	"	"	15	214
7:30	"	"	"	15	229
7:40	"	"	"	15	244
7:50	"	"	"	15	259
8:00	1170	80	9.5	15.5	274
8:10	"	"	"	15.5	290
8:20	"	"	"	15	305
8:30	"	"	"	15	320
8:40	"	"	"	15	335
8:50	"	"	"	15	350

5th time
in knofs
was peccated
with rubber.

52) 271.1 / 15.8
 1806
 4196

#4 Bath

Rubber Damish
 #10

TIME	Sp. No.	Temp	Volts	Amp	Total
8 PM.	1170	80	9.5	15	365
4	"	82	9.5	15	380
5	"	82	9.5	15.5	395
6	"	83	"	15.5	410
7	"	"	"	15.5	425
8	"	"	"	15.5	440
9	"	"	"	15.5	456
10	"	"	"	15.5	471
11	"	"	"	15.5	487
12	"	"	"	15.5	502
July 30					
1:00	"	"	"	15.5	518
2:00	"	"	"	15.5	533
3:00	"	80	"	16	549
4:00	"	"	"	16	565
5:00	"	"	"	16	581
6:00	"	"	9	15	596
7:00	"	"	"	15	611
8:00	"	"	"	15	626
9	1170	80	9.5	15.5	642
10	"	"	"	15.5	657
11	"	"	"	15.5	673
12 PM	"	"	"	16.5	710
1	"	"	"	16	722
2	"	"	"	16	738
3	"	"	"	16	754
4	"	"	"	16	770
5	"	"	"	16	786
6	"	"	"	16	802

5th time was
 was repeated
 with handle
 on,

out

11 Bath

Rubberdamish

July 29, 20. at 12-AM.

17

Time	Sp. in	Temp	Vital	Angle	Total
12 AM	1170	80	9.5	15.5	
1 PM	"	"	"	16	16
2	"	"	"	15.5	32
3	"	"	"	15.5	47
4	"	82	9.5	15.5	63
5	"	"	"	15.5	78
6	"	83	"	15.5	94
7	"	"	"	15.5	109
8	"	"	"	16.0	125
9	"	"	"	16.0	141
10	"	"	"	15.5	156
11	"	"	"	16	172
12	"	"	"	16	188
July 30, 20.					
1 PM	"	"	"	16	204
2	"	"	"	16	220
3	"	86	"	16	236
4	"	"	"	16	252
5	"	"	"	16	269
6	"	"	9	17	285
7	"	"	"	17	302
8	"	"	"	18	320
9	"	"	"	18	338
10	"	"	9.5	18	356
11	"	"	"	18	374

Knee taken off
and presented
3rd time in

46 / 746

#7 Bath

Rubber Transistor

#17

TIME	Sp	Dev	Temp	Volta	Amps	total
12	1170	80	95	185	392	
1 PM	"	"	"	185	411	
2	"	"	"	16.0	477	
3	"	"	"	16	493	
4	"	"	"	16.5	459	
5	"	"	"	16	475	
6	"	"	"	16.5	492	
7	"	"	"	16	508	
8	"	"	"	16	524	
9	"	"	"	16	540	
10	"	"	"	16	556	
11	"	"	"	16	572	
12	"	"	"	16	588	
1 PM	"	"	"	16	604	
2	"	"	"	16	620	
3	"	"	"	16	636	
4	"	"	"	16	652	
5	"	"	"	16	668	
6	"	"	"	16	684	
7	"	"	"	16	700	
8	"	"	"	16	716	
9	"	"	"	16	732	
10	"	"	"	16	748	

Before putting in
leaves were taken
off and reconnected
rubber transistor
3rd time in

322 barfield
when taking
this means it
long is used to
break.

cont

#3 Bath

Rubber damish

Start July 29, 20, at 4 PM, #18

ME Sp. Amp. 1st Amp. Total 2nd time

4 PM 1170 82 9.5 18.5 18 in after

5 " " 9.5 18.5 37 stripping

6 " 83 " 18.5 55 Edge inf by

7 " " " 18.5 74 finger

8 " " " 19.5 94

9 " " " 19.5 113

10 " " " 19.5 122

11 " " " 19.5 135

12 " " " 19.5 148

July 30, 20. 4 PM 1170 80 9.5 19.5 161

1 " " " 19.5 174

2 " 86 " 20 187

3 " " " 20 200

4 " " " 20 213

5 " " 9 226

6 " " 9 239

7 " " 9 252

8 " " 21 265

9 " " 21 278

10 " 9.5 21 291

11 " " 21 304

12 " " 21 317

1 PM " " 22 330

2 " " 19.5 343

3 " " 19.5 356

40/815/20.3

#3 Bath Rubberdormish #18

TIME	SPAN	TEMP	Volts	Amper	Feet
4	1.70	80	9.8	191	478
5	"	"	"	19.5	497
6	"	"	"	20	517
7	"	"	"	19.5	537
8	"	"	"	19	556
9	"	"	"	21	577
10	"	"	"	21	588
11	"	"	"	21	597
12	"	"	"	21	607
July 31					
10.0	11.0	80	"	20.5	6
20.0	"	"	"	21.5	6
30.0	"	"	"	21	7
40.0	"	"	"	21	7
50.0	"	"	"	21	14
60.0	"	"	"	21	76
70.0	"	"	"	21	7
80.0	"	"	"	21	815 Cont.

2nd time in
after stripping
Edge wrapped by
finger

#2-Both

Started July 29, 20.

TIME	Sp. H.	TEMP	Volts	Amps	Total
4 AM	1170	82	9.	14.5	
5	"	"	9.5	14.5	14
6	"	83	"	14.5	29
7	"	"	"	14.5	43
8	"	"	"	17.	60
9	"	"	"	17	77
10	"	"	"	17	94
11	"	"	"	17	111
12	"	"	"	17	128
July 30, 20.					
1 AM	1170	80	9.5	17	145
2	"	"	"	17	162
3	"	80	"	17.5	180
4	"	"	"	17.5	197
5	"	"	"	17.5	215
6	"	"	9	17	232
7	"	"	"	17	249
8	"	"	"	17	266
9	"	"	"	17	283
10	"	"	9.5	17.5	300
11	"	"	"	17.5	318
12	"	"	"	17.5	335
1 AM	"	"	"	17.5	353
2	"	"	"	15.5	368
3	"	"	"	15.5	384

Rubber varnish

#19

2nd time in
after stripping
edge wiped
by mach.

47 / 146 / 1
 146 / 290

#2 Bath

Rubber milled
 #19

Time	Sp	Gr	Temp	Voltage	Amperes	Total
4			80	9.5	15	399
5		1170	"	"	15.5	415
6		"	"	"	15	430
7		"	"	"	15	445
8		"	"	"	15.5	460
9		"	"	"	15	475
10		"	"	"	15	490
11		"	"	"	15	505
12		"	"	"	15	520
13		1170	"	"	15.5	535
14		"	"	"	15.5	547
15		"	"	"	15	560
16		"	"	"	15	577
17		"	"	"	15	594
18		"	"	"	15	609
19		"	"	"	15	624
20		"	"	"	15	639
21		"	"	"	15	654
22		"	"	"	15.5	669
23		"	"	"	15	684
24		"	"	"	15	699
25		"	"	"	15.5	716
26		"	"	"	15.5	730
27		"	"	"	15.5	746

2nd time in
 after stripping
 Edge wiped off
 machine.

Out

Aug 1 - 20

Had trouble during the
hours of 4 AM and 7 AM.
was stopping about
20 min during last 4
hours. Squaw on shaft
continues to come late. Had
same trouble before.

Stopped 8-40 same
trouble as before

8 Bath
Started July 30, 20 at 3 PM

Pushed 2500 miles

#16

TIME	Sp	TEMP	Notes	Amper	Total
8 PM	1170	80	9.5	15	
9	"	"	"	15	30
10	"	"	"	15.5	45
11	"	"	"	16	61
12	"	"	"	15.5	76
1	"	"	"	15	92
2	"	"	"	17	110
3	"	"	"	17	127
4	"	"	"	14	141
5	"	"	"	14	
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8	"</				

8 Bath

Rakher Danish
#16.

Time	Sp. Air	TEMP	Vols	Amp	Total
11:12	1170	80	9.5	15	397.2
4	"	"	"	15	412.4 ⁴⁵ time in
5	"	"	"	15	429 ⁴² lensa left on
6	"	"	"	15	442 ⁴⁴ not treated.
7	"	"	"	15	457
8	Shut				
9	7:02 in				
10	1170	"	"	15	
11	"	"	"	15	
12	"	"	"	15	
AM	ang	"	"	15	
1:00	"	"	"	15	
2:00	"	"	"	15	
3:00	"	"	"	15	
4:00	"	"	"	15	
5:00	"	9	"	15	
6:00	"	"	"	15	
7:00	"	"	"	15	
8:00	"	9.5	"	15	
9:00	"	"	"	15	613
10:00	"	"	"	15	633
11:00	1170	9.5	80	15	648
12:00	"	"	"	15	663 over next page

No 8 Bath Rubber Voring # 16

Time	Sp	Temp	Volts	Amps	Feet
5:00	1170	80	9.5	15.6	93
6:	"	"	"	15.6	93
7:	"	"	"	15.6	93
8:	"	"	"	15.4	23
9:	"	"	"	15.4	38
10	"	"	"	15.4	53

Out

48/253
273
200
336
15.7

5 Bath Rubber Voring # 20

Started July 20 20 at 4 P.M.

TIME Sp Volts Amps Feet

4 P.M.	1170	80	9.5		
5	"	"	"	20.5	20
6	"	"	"	20	40
7	"	"	"	20	60
8	"	"	"	21	81
9	"	"	"	22.5	103
10	"	"	"	22.5	126
11	"	"	"	22.5	148
12	"	"	"	22.5	171

2nd time in
no. 20.

July 20 20					
1 P.M.	1170	80	9.5	22	173
2	"	"	"	22	215
3	"	"	"	23	238
4	"	"	"	23	261
5	"	80	"	16	244
6	"	"	"	16	243
7	"	"	"	16	243
8	"	"	"	16	243
9	"	"	"	23.5	348
10	"	"	"	23	371
11	"	"	"	23	394
12	"	"	"	23.5	418
1 P.M.	"	"	"	23	441
2	"	"	"	22	463
3	"	"	"	22	485

$$\begin{array}{r} 38 \overline{) 796} \\ \underline{76} \\ 36 \end{array} \quad \begin{array}{l} 21 \\ 21 \\ 21 \end{array}$$

5 Batter

Rubber Derrick
#20

HE	Sp	On	Imp	Rel	Imp	Rel
4	170	80	9.5	23	58	58
5	"	"	"	23	58	58
6	"	"	"	23	55	55
7	"	"	"	23	57	57
8						
9						
10						
11	1170	"	"	21	59	59
12	"	"	"	21	61	61
AM	avg 1					
100	"	"	"	21	62	62
200	"	"	"	21	68	68
300	"	"	"	21	46	46
400	"	"	"	21	42	42
500	"	9	"	18	41	41
600	"	"	"	18	75	75
700	"	"	"	18	77	77
800	"	9.5	"	17	79	79
900	"	"	"			
1100	11	9-5	"			

Shut Down

Out

No 6 Both Exp 24 A-B

Time	Sp	Bar	U	Bar	Total
9:00	1170	85	7.5	15	322
10:00	"	"	"	15	337
Shut Down					
3:00	"	"	"	15	352
4:00	"	"	"	15	367
5:00	"	"	"	15	382
6:00	"	"	"	15	397
7:00	"	"	"	15	412
8:00	"	"	"	15	427
9:00	"	"	"	15	442
10:00	"	"	"	15	457
11:00	"	"	"	16	473
12:00	"	"	"	16	479
AM Aug 2	"	"	"	16	515
1:00	1170	"	"	16	531
2:00	"	"	"	16	547
3:00	"	"	"	16	563
4:00	"	"	"	16	579
5:00	"	"	"	16	595
6:00	"	"	"	16	611
7:00	"	"	"	16	627
8:00	"	"	"	16	643
9:00	"	"	"	16	659

#6 Cw Bath

Time	Sp	Bar	U	Bar	Total
Aug 2 30	1170	80	9.5	16.5	685
11:00	"	"	"	16.5	700
12:00	"	"	"	16.5	718
1:00	"	"	"	16	734
2:00	"	"	"	16.5	750
3:00	"	"	"	16.5	767
4:00	"	"	"	16.5	783
5:00	"	"	"	16.5	800
6:00	"	"	"	16.5	816
7:00	"	"	"	16	832

Exp 24 A-B

Cent

5/ 8/16
3/16

Exp 25 AB.
 Removed from CW after
 100 amp hrs & dust
 in CW wet full
 current on.
noted 1/15/53 Kasal Cor

July		#	4 C Bath Exp	
Time	Start	Stop	Rate	Total
9 AM	11:40	8:0	9.5	
10:01	"	"	"	15
11	"	"	"	15
12	"	"	"	15.5
1 PM	"	"	"	15.5
2	"	"	"	15.5
3	"	"	"	15
4	"	"	"	15
5	"	"	"	15
6	"	"	"	15
7	"	"	"	15
Shut Down				
11:00	11:40	8:0	9.5	15.5
12:00	"	"	"	15.5
1:00	"	"	"	15.5
2:00	"	"	"	15
3:00	"	"	"	15
4:00	"	"	"	15
5:00	"	9	"	15
6:00	"	"	"	15
7:00	"	"	"	15
8:00	"	9.5	"	15
9:00	"	9.5	"	16
10:00	"	"	"	16

No. 4 Bath A-B

TIME Spn. Temp. Vol. Amp. Total
1:00 1170 80 9.5 15 334

3:00	1170	80	9.5	15	349
4:00	"	"	"	15	364
5:00	"	"	"	15	379
6:00	"	"	"	15	394
7:00	"	"	"	15	409
8:00	"	"	"	15	424
9:00	"	"	"	15	439
10:00	"	"	"	15	454
11:00	"	"	"	15	469
12:00	"	"	"	15	484
AM Aug 2					
1:00	"	"	"	15	499
2:00	"	"	"	15	514
3:00	"	"	"	16	530
4:00	"	"	"	16	546
5:00	"	"	"	16	562
6:00	"	"	"	16	578
7:00	"	"	"	16	594
8:00	"	"	"	16	610
9:00	"	"	"	16	626
10:00	"	"	"	16	642
11:00	"	"	"	16	658
12:00	"	"	"	16	674
1:00	"	"	"	16	690
2:00	"	"	"	16	706
3:00	"	"	"	16	722

WR

3PM 1170 80 9.5 15 349
4 5 6 7
1175 17
out

51 80 1170 80 9.5 15 334

2 Bath

Start July 31 20 at 7 PM
TIME Spn. Temp. Vol. Amp. Total
7PM 1170 80 9.5 15

E4# 26A-B

Shut Down

1:00	1170	80	9.5	14.5	14
2:00	"	"	"	14.5	29
3PM Aug 1					
4:00	"	"	"	14.5	44
5:00	"	"	"	15	59
6:00	"	"	"	15	74
7:00	"	"	"	15	89
8:00	"	"	"	15	104
9:00	"	"	"	14	119
10:00	"	"	"	14	134
11:00	"	"	"	15	149
12:00	"	"	"	15	164
1:00	"	"	"	15	179
Shut down					
3:00 1170					
4:00	"	"	"	15	191
5:00	"	"	"	15	206
6:00	"	"	"	15	221
7:00	"	"	"	15	236
8:00	"	"	"	15	251
9:00	"	"	"	15	266
10:00	"	"	"	15	281

2 Bath

Exp # 26 AB

400	87 gr	Temp	Volts	Amph	Total
12	170	80	9.5	16	299
AM	"	"	"	16	313
10	avg 2		"	16	329
2	"	"	"	16	345
3	"	"	"	16	361
4	"	"	"	16	374
5	"	"	"	16	393
6	"	"	"	16	409
7	"	"	"	16	428
8	"	"	"	16	441
9	1170	80	9.5	16	457
10	"	"	"	16	473
11	"	"	"	14	487
12	"	"	"	14	501
13	"	"	"	14	515
14	"	"	"	14	529
15	"	"	"	16	544
16	11	"	"	15	559
17	"	"	"	15	574
18	"	"	"	15	589
19	"	"	"	15	599
20	"	"	"	15	619



Cont

#2 Bath Exp 26 HB

#3 Bath
Started July 31, 20 at 7 AM
TIME exp 26 temp 1170 80 9.5 18
7 AM 1170 80 9.5 18

Exp #27 HB

Sum of enter

~~18~~ ~~18~~

Shut Down
1100 1170 80 9.5 18 18
1200 " " 18 36
1 AM Aug 1
100 " " 18 54
200 " " 19 73
300 " " 19 72
400 " " 19 111
500 " 9 13 130
600 " " 13 140
700 " " 13 156
800 " 9.5 18 184
900 " 19 203
1000 " 19 222

Shut Down
300 1170 80 9.5 19 241
400 " " 19 260
500 " " 19 289
600 " " 19 298
700 " " 19 317
800 " " 19 336
900 " " 19 355

✓

3 Bath

Eys # 27AB

16.00	819r	Temp.	Wds	Amph	Total
11.00	1170	80	7.5	19	344
3.0	"	"	"	17	393
2.0	"	"	"	19	412
AM	Aug	2	20		
16.0	1170	80	7.5	20	432
2.0	"	"	"	20	452
3.0	"	"	"	21	473
4.0	"	"	"	21	494
5.0	"	"	"	21	515
6.0	"	"	"	21	536
7.0	"	"	"	21	557
8.0	"	"	"	21	578
9.0	1170	80	7.5	21	599
10.0	"	"	"	21	620
11.0	"	"	"	20	640
12.0	"	"	"	20	660
13.0	"	"	"	20	680
14.0	"	"	"	20	700
15.0	"	"	"	20	720
16.0	"	"	"	20	740
17.0	"	"	"	20	760
18.0	"	"	"	21	781
19.0	"	"	"	21	802

41) 802 2/19
 19 20
 392
 360
 23

Out

Mr. Y. Rath

1. 11. 21

Time	Temp	Volts	Amps	Notes	#
1. 10	80	9.5	1.4		
1. 11	"	"	1		
1. 12	"	"	1		

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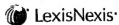
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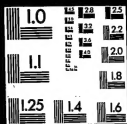
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